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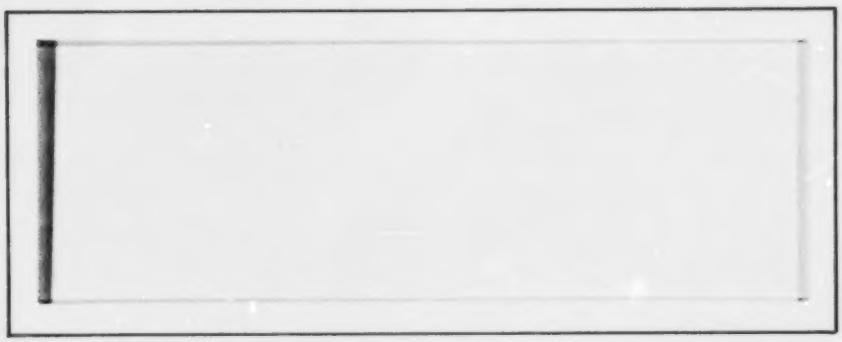

# WORKING PAPER

Marketing and Economics Branch

Direction générale de la commercialisation et de l'économie

Working papers are (1) interim reports completed by the staff of the Marketing & Economics Branch, and (2) research reports completed under contract. The former reports have received limited review, and are circulated for discussion and comment. Views expressed in these papers are those of the author(s) and do not necessarily represent those of Agriculture Canada.

# FREIGHT RATE ADJUSTMENT IMPLICATIONS FOR CANADA'S PORK TRADE WITH JAPAN

*(Working Paper 7/84)*

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March 1984

* This study was undertaken on contract to Food Markets Analysis Division, Marketing and Economics Branch.

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March 1984

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Ottawa, March 1984

# FREIGHT RATE ADJUSTMENT IMPLICATIONS

# FOR

# CANADA PORK TRADE WITH JAPAN

## EXECUTIVE SUMMARY

Canada's total average exports of pork to Japan in 1981-83 were worth $197 million. At the end of the 1970s more than four-fifths of these exports constituted fresh frozen pork. Fresh frozen pork shipped to Japan in 1982 originated principally from Quebec and Ontario (together 83 per cent) with small proportions (each less than 6 per cent) being sourced from Alberta, Manitoba, and Saskatchewan.

At the end of the 1970s, Canadian pork typically held a 25-33 per cent share of the Japanese pork import market. Shares in this market were destabilized by the withdrawal of Denmark--often the share leader--due to "hoof and mouth" problems in the early 1980s. Denmark returned to the market in late 1983 and attempted through very aggressive pricing (export subsidies) to quickly recapture its market share. Over the longer-term, shares of the Japanese pork market will be determined by the competitive pricing of pork products of similar quality.

Analysis shows that the mix of pork products being sold to Japan from Canada has been quite different from exports from Denmark, and generally of better quality than competing products from the US. Although the "table meat" segment of the Japanese

market--catered to by Canadian pork--has been growing relatively slowly, the high yield for processing of much Canadian pork ensures a growing market. Looking ahead, Japanese meat processors will require import pork to be cut to more exacting specifications to satisfy their rising "ready-to-process" demands. To meet these specifications will require more labour-intensive activities in Canadian pork packing houses.

Several cost and quality factors bear on the overall competitiveness of Canadian pork in the Japanese market place. Sourcing within Canada will be done from those regions and packing houses that can most effectively serve Japanese buyers with quality items at a delivered cost in Japan that is globally competitive. Changing feedgrain rail freight rates through the Western Grain Transportation Act (WGTA) will affect some elements in the overall hog production cost structure for Western farmers. It is estimated that under the proposed Gilson formula, production of trimmed carcase pork in the West could decline by almost 5¢ per pound in 1984 dollars ("50-50" = 4.2¢ and "C-155" = 2.5¢) by 1990-91. These cost adjustments would bring about some slight (0.34%) increase in North American hog production and, ceteris paribus, therefore contribute downward pressure on all hog prices. Aside from this effect, no other changes would occur in the cost-price hog production structure in the central provinces as a direct consequence of the WGTA.

Thus, implementation of the WGTA may make Canada slightly more competitive in the Japanese pork market overall. Will it

also cause a significant shift in sourcing of pork from Quebec and Ontario to the Western provinces by 1990-91? As soon as other quality, volume, production cost, and transportation cost elements are taken into account, the answer to this question appears to be negative. Consider the following points discussed in some detail in this report:

* Canada sells high quality pork to Japan. Quality is determined by meat (size of eye of lean), lack of PSE, trimming to or better than specifications, attention to finishing, consistency of product, and all round yield from Canadian short cut back (SCB) achieved by Japanese end-users.

* To continually achieve high quality standards for the Japanese market requires a considerable volume of hog through-put in the packing house sector from which the best pork can be selected for Japan. Such exports to Japan require "economies of scope" to be possible. At present, the small quantities of hogs moving through Western packing houses make these conditions difficult to achieve in any volume. This is unlikely to change by 1990-91.

* Development of a "brand-name" image in the Japanese market is costly and time consuming to achieve. A few mistakes in shipment quality can hurt a brand for several years. The leading Canadian brand in 1984 commanded a premium of 5-20¢ per pound for SCB above the next four brands. They, in turn, earned similar premiums above any other brands. Price premiums vary with cut, the highest being on tenderloin. To close the current quality-price gap Western packing houses would need a 6-25 per cent cost reduction vis-à-vis their counterparts in Quebec and Ontario.

* Recent cuts in the wage structure of workers in the US packing house industry have left Canadian wages for equivalent jobs approximately CDN$5.00 per hour above their US counterparts. This differential could amount to a 4-5¢ per pound disadvantage for Canadian boneless ham relative to American in the Japanese market. Canadian hogs are likely to be diverted through American

packing houses on route to Japan's (and the US) market unless this wage differential can be effectively eliminated. Thus, the outcome of upcoming wage bargaining in the Canadian packing house sector, if different across provinces, could importantly affect the regional sourcing of pork for Japan. It will also affect Canada's long-term overall share of the Japanese pork import market.

* Excess capacity in international shipping makes ocean freight rates very competitive. This situation is unlikely to change substantially by 1990-91, particularly because of back-haul considerations and the general decline in market power of price-setting shipping conferences. There is substantial capacity of refrigerated containers available at Eastern ports for movement to Japan. Rates are set to compete precisely with any mixed-mode shipment from the West. Indeed it is possible even to ship from Ontario by road to US West Coast ports for onward movement to Japan and match or better total freight costs from the Prairies to Japan. Evidence suggests that Eastern or mixed-mode "road-Western port" rates to Japan would adjust to absorb any modest product price differential favouring Western pork over Quebec/Ontario pork in order to maintain freight volume and back-haul usage capacity. Thus, a 5¢ per pound cost advantage for the West could be offset in part or whole by a proportionate adjustment in Eastern freight charges to Japan.

Providing that Canadian producers can keep their overall production cost structure in line with the US and maintain the highest standards of quality control, Canada could and should maintain a 20 to 30 per cent share of Japan's import market up to 1990. Based on demographic trends, income elasticity of demand for pork, and conservative income projections, Japan's total pork import requirements to 1990 can be forecast. Various assumptions about trade liberalization and rice support payments are used. Taking all these into account, Canada's potential shipments of pork to Japan in 1990 are forecast as:

| | |
|---|---|
| HIGH | 55,800 tonnes per annum |
| MEDIUM | 43,750 tonnes per annum |
| LOW | 32,000 tonnes per annum |

Note that the most pessimistic (LOW) forecast is for a volume similar to Canada's 1978-80 average exports to Japan. In this case, we would expect Ontario and Quebec to continue to hold over 80 per cent of the fresh frozen pork exports. The most optimistic (HIGH) scenario allows for considerable overall growth in shipments with the Prairies improving their share of Japan's pork import market, especially if the "Gilson" WGTA option is implemented. The most likely outcome is the MEDIUM case which allows for modest growth (relative to the 1978-80 base period) up to 1990. In these circumstances Ontario and Quebec must be expected to retain 80 per cent of Canadian pork export volume to Japan regardless of the outcome of the WGTA.

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## Introduction

This report was commissioned to analyse the implications of the Western Grain Transportation Act (WGTA) and possible alternative freight rate scenarios for Canadian pork exports to Japan by:

* reviewing the development of Canada's pork exports to Japan from the mid 1970s to the present and identifying key factors that have stimulated or impeded sales;
* analysing the pattern of sourcing of pork in Canada by Japanese buyers, recognizing the role of key elements of unit-costs--especially transporation costs--bearing upon decisions to purchase from the Prairie provinces and Quebec;
* examining the potential impact of a range of freight rate adjustment scenarios on the overall cost structure of Canadian pork supplies and their relative effects on Eastern and Western producers;
* considering how such freight rate scenarios may affect the regional mix of pork sales to Japan, given other factors affecting Japanese sourcing preferences for grades of Canadian pork; and,
* projecting future pork import requirements by Japan to 1990 and reviewing the conditions to be met by Canadian exporters in order to maintain or expand Canadian import market share for pork in Japan.

In order to produce this report several methodologies have been employed:

* literature and documents in English, French, and Japanese concerning the workings of the Japanese pork market were reviewed;
* pork production and trade data for Canada, other offshore producers, and Japan since the mid 1970s have been collected;
* these data have been reviewed and useful series are tabulated and analyzed to assist in identifying market shares and their responsiveness to cost and price factors;

* Japanese trading company officers and food processing buyers were interviewed (several in the Japanese language) to determine price, contract arrangements, marketing structure, cut and quality, labour factors, transport cost, and other factors that determine the specifics of Japanese pork sourcing in Canada and from elsewhere; interviews were held in Ottawa, Montreal, rural Quebec, Toronto, and rural Ontario; telephone interviews were held with respondents in Vancouver, Calgary, Denver, New York and Tokyo;

* the effects were calculated and analysed of various WGTA freight rate scenarios on the cost and pricing structure of hog producers in Western and Eastern Canada to determine their potential impact on regional comparative advantage in selling pork to Japan;

* Japanese pork import requirements to 1990 were forecast using quantitative methods and qualitative considerations; and,

* the likely impact of various Canadian transport cost regimes on the potential share of the Japanese import market that might be won by Canadian exporters was determined.

The report begins with a brief note on the dimensions of the Canadian pork producing industry and then turns immediately to the issue of implications of three different policy options under the WGTA for hog output in Western and Eastern Canada to 1990-91. These estimates are critical to determining future regional involvement in pork exporting. To fully understand the actual results and potential of the Canada-Japan pork trade, it is necessary to grasp the underlying trends in Japanese hog production, pork consumption and pork processing. With this background in hand, recent results from Canada's pork exports to Japan can be more fully analysed. Issues concerning hog production, slaughter, meat cutting and packing are discussed in the context of Japanese product requirements. Concerns for product quality and uniformity

at acceptable prices are discussed, and factors that bear upon unit costs of production in the Canadian packing house sector are reviewed. The determination of international freight rates from Eastern and Western Canada to Japan is then examined and such rates are considered in light of the total volumetric pattern of Canada's general trade with Japan. With the quality, price, and cost factors well understood, we proceed to forecasts of Japan's pork consumption and imports to 1990, and the probable share of that market which Canadian pork shippers should expect to capture. Finally, the likely pattern of within-Canada regional sourcing for these pork exports is discussed. The report ends with a brief summary and main conclusions.

## Current Canadian Pork Production

In 1983, the provincial breakdown of Canada's production of graded hogs was as follows:

| Province/Region | Thousands | Proportion (%) |
|---|---|---|
| British Columbia | 326.7 | 2.5 |
| Alberta | 1,626.6 | 12.4 |
| Saskatchewan | 548.8 | 4.2 |
| Manitoba | 1,191.7 | 9.1 |
| Ontario | 4,233.5 | 32.3 |
| Quebec | 4,689.4 | 35.7 |
| Atlantic | 499.8 | 3.8 |
| Canada | 13,116.5 | 100.0 |

Thus, two-thirds of all hogs produced were graded in Quebec and Ontario while about one-quarter of all hogs were produced in the Prairie provinces. It is evident that the industry is currently highly concentrated in the central provinces with associated regional economies of scale in production and meat packing. Canadian exports of pork to Japan in 1983 amounted to $183.1 million compared to $201.2 in 1982.

## Freight Rate Changes

The main issue to be discussed in this report is whether freight rate induced relative changes in the regional cost structures of hog production can shift a substantial proportion of current hog output from the central provinces to the Prairies. More particularly, will predicted changes in hog production costs have

a strong bearing on Canada's pork export marketing effort to Japan? Will they:

(a) cause there to be a regional shift in the origins of Canadian pork destined for the Japanese market; and,

(b) expand Canada's share of the Japanese pork market overall?

These questions can be answered in isolation from other supply and demand factors that will bear on the outcome in this highly competitive and quality conscious offshore export market. The question becomes: are freight rate induced changes in hog production costs likely to be of sufficient magnitude to affect the answers to questions (a) and (b) above, given the outworkings of other relevant costs, price and growth factors?

The effect of the artificially low (non-market) Crows Nest Pass (Crow) freight rates has been to raise Prairie grain prices above what they would have been had these rates reflected the rail costs of moving grain out of Western Canada. With the end of the Crow rate regime in sight, whatever revision to the statutory freight-rates is finally adopted, the result will be lower grain prices on the Prairies. No impact on Eastern grain prices is anticipated. But in the West, lower feedgrain costs should decrease overall hog production costs and thereby slightly increase total North American hog supply. This latter effect is unlikely to amount to an increase of more than 0.34 per cent of total output*, under any new freight rate regime, and thus it will have a barely perceptible effect in depressing all-around North American real hog prices.

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* Report of the Working Group, The Effects of the Western Grain Transportation Initiative on Agriculture in Eastern Canada, Agriculture Canada, P. 41, 1982.

In this report, three alternative revisions of statutory freight rates have been reviewed. Each one implies a different structure of freight rate cost sharing and would, therefore, have a different impact on grain prices, and in turn the extent of Western hog production expansion. The Canadian government's 1982 Policy Statement on the Western Railway Transport Initiative made it clear that compensation will be paid for changing the Crow rates. While the recently enacted Western Grain Transportation Act specifies that such compensation will be paid to the railways, thereby keeping freight rates well below costs, the issue is to be re-examined by a Commission of Inquiry that is due to be announced in the near future. The pay-the-railways method plus two other policy options that have been widely discussed are considered. The are:

(a) Gilson: This option was put forward in the Gilson Report.* It entails all government compensation being paid to the railways at first. Over a seven year period, acreage-based producer payments would be phased in so that 80.9 per cent of government compensation would go to producers by 1989-90. In addition, grain producers would pay for all costs associated with statutory grain volumes over the 1981-82 volume plus a maximum of 3 per cent inflation per year up to 1985-86. While Gilson recommended that producers pick up only 4.5 per cent per year after 1985-86, his option in this report is based on the decision that the government will only pick up rail cost inflation over 6 per cent.

(b) 50-50: This option is identical to Gilson except that the amount of the compensation paid to producers is frozen at 50 per cent beyond 1985-86.

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* Gilson, J.C. Western Grain Transportation: Report on Consultations and Recommendations, Ottawa, 1982.

(c) C-155: This option would see the government paying the 1981-82 gross railway revenue shortfall, equal to the total rail costs minus Crow revenues paid by producers in that year, to the railways in perpetuity. Producers would pay for all of volume increases plus the first 3 per cent of inflation in rail costs up to 1985-86 and the first 6 per cent per year thereafter.

The consequences of applying these three options to freight rates are shown in Chart 1. The net effect on Prairie grain prices per tonne in 1990-91 is given by the difference between the Crow rate and the three options:

Net Effects on Freight Rates

$ per tonne, 1990-91

| | |
|---|---|
| Gilson | 35.41 |
| 50-50 | 30.51 |
| C-155 | 17.77 |

Using a hog-feed conversion ratio of 552.3 pounds of barley per 100 pounds of trimmed carcase pork*, the effective cost reduction is as follows:

---

* This ratio is taken from Harvey, D.R., An Economic Analysis of the Crow Rates, Agriculture Canada, 1982.

CHART 1

System Average Freight Rates* by Policy Option

($ per tonne)

| Year | Crow | C-155 | 50:50 | Gilson |
|---|---|---|---|---|
| 1983-84 | 4.89 | 5.69** | 13.03 | 13.03 |
| 1984-85 | 4.89 | 8.41 | 17.72 | 17.72 |
| 1985-86 | 4.89 | 8.54 | 22.75 | 22.75 |
| 1986-87 | 4.89 | 11.13 | 25.67 | 26.83 |
| 1987-88 | 4.89 | 13.88 | 27.94 | 30.42 |
| 1988-89 | 4.89 | 16.69 | 30.31 | 34.05 |
| 1989-90 | 4.89 | 19.63 | 32.80 | 37.86*** |
| 1990-91 | 4.89 | 22.66 | 35.40 | 40.30 |

* Based on the assumptions of increasing volumes moved and rail cost inflation of 6 per cent per annum after 1985-86.

** From January 1, 1984.

*** 80.9 per cent to producers by 1989-90.

SOURCE: Agriculture Canada, estimates.

1990-91 dollars:

Gilson - $8.87 per 100 lbs.

50-50 - $7.65 per 100 lbs.

C-155 - $4.45 per 100 lbs.

It should be stressed that these results are for 1990-91 and were obtained by assuming a 9 per cent annual inflation rate. Since this report uses real 1983-84 dollars as its numeraire, the cost savings must be suitably deflated, with the following results:

1983-84 dollars:
(per 100 lbs.)

| | 5% inflation | 6% inflation | 7% inflation | 9% inflation |
|---|---|---|---|---|
| Gilson | $6.30 | $5.90 | $5.52 | $4.86 |
| 50-50 | 5.44 | 5.09 | 4.76 | 4.19 |
| C-155 | 3.16 | 2.96 | 2.77 | 2.44 |

Thus, the effects of these three possible freight rate revision options range from a cost reduction for Western pork (by 1990-91) of 2.5¢ per pound to 6.3¢ per pound. The issue to be considered in the rest of this report is whether a maximum 6.3¢ per pound cost (or approximately 3 per cent) price advantage on hogs at the Western packing house door will significantly increase Western pork exports to Japan.

## Japan's Pork Production and Consumption

### (1) Production

Japanese farms are very small in hectarage--on average no more than 1.5 ha. Not surprisingly the number of hogs per farm has been very small, numbering only 17 in 1971. But in the 1970s, the number of hogs per farm quintupled as the industry gradually grew in scale of operation. The dimensions of this growth are shown in Table 1. Expansion in pigs per farm was concomitant with a decline by two-thirds in the number of Japanese hog farmers. Hog herd size (at February 1st of each year) increased by 45 per cent between 1971 and 1981, but remained relatively small even at the beginning of the 1980s.

Carcase production showed a 66 per cent growth over the same period, as shown in Table 2. At the same time, carcase yield per pig rose by 15 per cent between 1971 and 1981, but by 1979 yield levels had reached a plateau. It is questionable whether further scale economies in pork production can be achieved in Japan without a revision of the current land tenure system and the feedstuff pricing structure. Land tenure arrangements make purchasing additional land very costly and therefore unusual. Moreover, even renting extra land is uncommon. Feed input prices are kept high by the rice price support system which levers up all food and feedstuff prices.

Japanese meat production, foreign trade, and overall disappearance since 1965 are shown in Table 3. As can be seen,

TABLE 1

JAPAN

Pig Farming

(As of February 1)

| | No. of Pig Farmers (1000) | No. of Herd Pigs (1000) | Growth (%) | No. of Pigs/Farm |
|---|---|---|---|---|
| 1971 | 398 | 6,904 | 109.0 | 17.3 |
| 1972 | 340 | 6,985 | 101.2 | 20.5 |
| 1973 | 321 | 7,490 | 107.2 | 23.3 |
| 1974 | 277 | 8,018 | 107.0 | 28.9 |
| 1975 | 223 | 7,684 | 95.8 | 34.3 |
| 1976 | 196 | 7,459 | 97.1 | 38.1 |
| 1977 | 179 | 8,132 | 109.0 | 45.4 |
| 1978 | 165 | 8,780 | 108.0 | 53.1 |
| 1979 | 156 | 9,491 | 108.1 | 60.7 |
| 1980 | 127 | 10,065 | 106.0 | 79.4 |
| 1981 | 112 | 10,040 | 99.8 | 89.8 |

SOURCE: MAFF, Japan.

TABLE 2

JAPAN

Pork Production

(Unit 1000 pigs, 1000 tonnes)

| | No. of Pigs | Carcase | Growth (%) | Carcase Per Pig (Kg) |
|---|---|---|---|---|
| 1971 | 12,983 | 843 | 114.8 | 64.9 |
| 1972 | 13,045 | 885 | 105.0 | 67.8 |
| 1973 | 14,023 | 971 | 109.6 | 69.2 |
| 1974 | 15,693 | 1,098 | 113.1 | 69.9 |
| 1975 | 14,384 | 1,040 | 94.7 | 72.2 |
| 1976 | 14,279 | 1,056 | 101.6 | 73.9 |
| 1977 | 16,080 | 1,169 | 110.7 | 72.7 |
| 1978 | 17,447 | 1,284 | 109.8 | 73.6 |
| 1979 | 19,225 | 1,430 | 111.3 | 74.3 |
| 1980 | 19,943 | 1,475 | 103.2 | 73.9 |
| 1981 | 18,708 | 1,396 | 94.6 | 74.6 |

SOURCE: MAFF, Japan.

TABLE 3

Meat Demand and Supply

unit - tons

| | | Beef | Pork | Horse | Sheep | Poultry | Total |
|---|---|---|---|---|---|---|---|
| (55 | (a) Production | 216,261 | 407,238 | 19,896 | 2,018 | 204,340 | 849,753 |
| | (b) Export | 73 | 16 | — | — | 2 | 91 |
| | (c) Import | 15,449 | 100 | 18,629 | 107,716 | 6,135 | 148,029 |
| | (d) a-b+c | 231,637 | 407,322 | 38,525 | 109,734 | 210,473 | 997,691 |
| | (e) Index | 100 (23) | 100 (41) | 100 (4) | 100 (11) | 100 (21) | 100 (100) |
| 1975 | (a) Production | 352,664 | 1,039,642 | 5,283 | 243 | 739,873 | 2,137,705 |
| | (b) Export | 10 | 3 | — | — | 3,274 | 3,287 |
| | (c) Import | 64,176 | 177,875 | 66,210 | 261,655 | 21,540 | 591,456 |
| | (d) a-b+c | 416,830 | 1,217,514 | 71,493 | 261,898 | 758,139 | 2,725,874 |
| | (e) Index | 180 (15) | 299 (45) | 186 (3) | 239 (9) | 360 (28) | 273 (100) |
| 1976 | (a) Production | 297,881 | 1,056,229 | 6,133 | 142 | 824,318 | 2,184,703 |
| | (b) Export | 11 | 1 | — | — | 2,302 | 2,314 |
| | (c) Import | 134,619 | 212,531 | 86,796 | 271,916 | 38,274 | 744,136 |
| | (d) a-b+c | 432,489 | 1,268,759 | 92,929 | 272,058 | 860,290 | 2,926,525 |
| | (e) Index | 187 (15) | 311 (43) | 241 (3) | 248 (9) | 409 (30) | 293 (100) |
| 1977 | (a) Production | 361,175 | 1,169,465 | 6,048 | 163 | 903,093 | 2,439,944 |
| | (b) Export | 15 | 18 | — | — | 2,791 | 2,824 |
| | (c) Import | 120,778 | 154,443 | 79,535 | 296,589 | 47,585 | 698,930 |
| | (d) a-b+c | 481,983 | 1,323,890 | 85,583 | 296,752 | 947,887 | 3,136,050 |
| | (e) Index | 208 (15) | 325 (42) | 222 (3) | 270 (9) | 450 (30) | 314 (100) |
| 1978 | (a) Production | 403,340 | 1,284,473 | 4,969 | 138 | 1,004,575 | 2,967,495 |
| | (b) Export | 9 | 2 | — | — | 2,656 | 2,667 |
| | (c) Import | 144,090 | 147,880 | 95,831 | 279,094 | 61,589 | 728,484 |
| | (d) a-b+c | 547,421 | 1,432,351 | 100,800 | 279,232 | 1,063,508 | 3,423,312 |
| | (e) Index | 236 (16) | 352 (42) | 262 (3) | 254 (8) | 505 (31) | 343 (100) |
| 1979 | (a) Production | 401,665 | 1,429,928 | 4,308 | 110 | 1,091,744 | 2,927,755 |
| | (b) Export | 14 | 64 | — | 30 | 3,185 | 3,293 |
| | (c) Import | 188,275 | 188,802 | 99,235 | 237,031 | 72,285 | 785,628 |
| | (d) a-b+c | 589,926 | 1,618,666 | 103,543 | 237,111 | 1,160,844 | 3,710,090 |
| | (e) Index | 255 (16) | 397 (44) | 269 (3) | 216 (6) | 552 (31) | 372 (100) |
| 1980 | (a) Production | 418,009 | 1,475,684 | 3,726 | 120 | 1,119,565 | 3,017,104 |
| | (b) Export | 14 | 89 | — | — | 3,944 | 4,047 |
| | (c) Import | 177,075 | 154,554 | 79,104 | 157,282 | 72,172 | 640,187 |
| | (d) a-b+c | 595,070 | 1,630,149 | 82,830 | 157,402 | 1,187,793 | 3,653,244 |
| | (e) Index | 257 (16) | 400 (45) | 215 (2) | 143 (4) | 564 (33) | 366 (100) |
| 1981 | (a) Production | 470,734 | 1,395,801 | 3,917 | 115 | 1,108,481 | 2,979,048 |
| | (b) Export | 21 | — | — | — | 3,008 | 3,029 |
| | (c) Import | 176,637 | 265,654 | 81,365 | 175,610 | 101,299 | 800,565 |
| | (d) a-b+c | 647,350 | 1,661,455 | 85,282 | 175,725 | 1,206,772 | 3,776,584 |
| | (e) Index | 270 (17) | 408 (44) | 221 (2) | 160 (5) | 573 (32) | 379 (100) |

NOTE: Carcass weight
(Index) - share of each type of meat

SOURCE: (a) MAFF, Japan.
(b)(c) MOF, Japan.

pork production has tripled since 1965, while pork imports expanded by almost 50 per cent between 1975 and 1981. However, since 1965 pork disappearance has constituted around 43 per cent of total domestic meat disappearance in Japan. The steadiness of this proportion owes something to the regulated structure of meat prices in Japan and the volumetric controls on beef. Meat prices and quantities are manipulated by use of the tariff system, and--in the case of beef--import quotas, to insulate Japan from the forces at work in international meat markets. It may be noted that since 1965 domestically produced poultry has come to dominate the meat market, whereas sheep and horse meat outputs have waned.

(2) Consumption

On a per capita basis, the average Japanese continues to consume a lower weight of meat than counterparts in Hong Kong, South Korea or Taiwan.* With some cyclical swings, pork consumption can be expected to expand at a rate somewhat above the demographic norm, and at an income elasticity of around 0.4. Table 4 shows that pork consumption grew overall by 15.6 per cent per capita between 1975 and 1980. However, since then there has been a 9.6 per cent contraction. Since Table 6 suggests that Japanese nominal pork retail prices

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* The 1981 per capita meat intakes were: Japan 22.4 Kg.; Hong Kong 64.1 Kg.; Taiwan 40.1 Kg.; South Korea 11.0 Kg.; (East Asia World Agricultural Regional Supplement Review of 1982 and Outlook for 1983 USDA ERS WAS-31 Supplement 2).

were virtually constant from 1974 to 1980, the reasons for the contraction in consumption since 1980 lie in substitution for pork by fish and other meats, and an overall cyclical downturn in real Japanese disposable income. It should be noted that beef and chicken intake continued to climb after 1979, even though the overall weight of meat intake virtually levelled off 1979-1982, (see Table 4).

Because home intake has grown by only 16.8% since 1975, the proportion of pork consumed in the Japanese household relative to all pork consumption has been on the decline. This ratio fell from 61 per cent to 52 per cent by 1981, as shown in Table 5. These results are of some consequence, since a high proportion of Canadian pork exports to Japan are for table meat and this appears to be one of the slower growing segments of a relative sedentary overall pork market. Although modest in dimensions, demand for processed pork has shown the best growth since 1975.

Pricing performance in the Japanese pork market is shown in Table 6. Producer and wholesale pork prices peaked in 1974/75 and have been dull ever since. Rather similar evidence appears for retail prices, all of which suggests that earlier over-pricing of pork may have frightened off some consumers permanently. Retail pricing evidence for table meat is given in Table 7. Here it can be seen that retail margins had climbed from 43 per cent in 1975 to 63 per cent by 1981. Thus, the trading gains were not going to Japanese farmers,

TABLE 4

JAPAN

Japanese Personal Food Consumption*

(grams/person/year)

| FY Years | Beef | Pork | Chicken | Total | Eggs |
|---|---|---|---|---|---|
| 1975 | 2,006 | 4,677 | 2,903 | 9,586 | 11,025 |
| 1976 | 2,127 | 4,966 | 3,093 | 10,186 | 11,021 |
| 1977 | 2,230 | 5,094 | 3,256 | 10,580 | 10,916 |
| 1978 | 2,459 | 5,178 | 3,450 | 11,087 | 10,955 |
| 1979 | 2,445 | 5,377 | 3,677 | 11,499 | 11,014 |
| 1980 | 2,400 | 5,407 | 3,773 | 11,580 | 10,894 |
| 1981 | 2,516 | 5,204 | 3,706 | 11,426 | 10,816 |
| 1982 | 2,600 | 5,179 | 3,900 | 11,679 | 11,083 |

NOTE: Pork consumption has been declining since 1980

* Household purchase

SOURCE: Prime Minister's Office, Tokyo.

TABLE 5

JAPAN

## Pork Consumption

(total 1000 tonnes, per capita, kg: per year)

| Year | Population Millions | Total Demand (per capita) Kg/p.a. | % | For Processing (per capita) | % | Household Purchase (per capita) | % | Other* (per capita) | Kg |
|---|---|---|---|---|---|---|---|---|---|
| 1975 | 112 | 1,217 (10.87) | 100 | 200 (1.78) | 16.43 | 744 (6.65) | 61.13 | 273 (2.44) | 22.44 |
| 1976 | 112 | 1,268 (11.30) | 100 | 212 (1.89) | 16.71 | 795 (7.09) | 62.70 | 261 (2.31) | 20.60 |
| 1977 | 113 | 1,323 (11.68) | 100 | 268 (2.36) | 20.25 | 823 (7.27) | 62.20 | 232 (2.05) | 17.55 |
| 1978 | 114 | 1,432 (12.53) | 100 | 288 (2.52) | 20.11 | 844 (7.39) | 58.93 | 300 (2.62) | 20.96 |
| 979 | 115 | 1,618 (14.03) | 100 | 328 (2.84) | 20.27 | 885 (7.68) | 54.69 | 405 (3.51) | 25.04 |
| 1980 | 117 | 1,630 (13.92) | 100 | 371 (3.16) | 22.76 | 903 (7.72) | 55.39 | 356 (3.04) | 21.85 |
| 1981 | 117 | 1,661 (14.19) | 100 | 361 (3.08) | 21.73 | 869 (7.43) | 52.31 | 431 (3.68) | 25.96 |

NOTE: Total Demand = Production + import - export

Carcass conversion rate: 70%

* Dining out, school meat, institutional, etc.

SOURCE: MAFF, Prime Minister's Office, Tokyo.

TABLE 6

JAPAN

Pork Price Trend

(Unit: ¥/Kg.)

| | Producer[1] | Growth* | Wholesale[2] | Growth* | Retail[3] | Growth* |
|---|---|---|---|---|---|---|
| 1971 | 269 | 114 | 431 | 109 | 930 | 102 |
| 1972 | 285 | 106 | 456 | 106 | 992 | 107 |
| 1973 | 301 | 106 | 493 | 108 | 1,120 | 113 |
| 1974 | 501 | 131 | 743 | 133 | 1,550 | 125 |
| 1975 | 451 | 92 | 747 | 101 | 1,680 | 108 |
| 1976 | 458 | 102 | 732 | 98 | 1,590 | 95 |
| 1977 | 427 | 93 | 691 | 94 | 1,570 | 99 |
| 1978 | 373 | 87 | 615 | 89 | 1,500 | 96 |
| 1979 | 415 | 111 | 627 | 102 | 1,450 | 67 |
| 1980 | 456 | 110 | 692 | 110 | 1,530 | 106 |
| 1981 | | | | | | |

NOTE: 1. Live hogs

2. Carcase

3. Cut Pork

* This year's price as a percentage of last year's price

SOURCE: MAFF, Japan.

TABLE 7

JAPAN

Price of Loin Ham in Tokyo

| | Wholesale | Growth | Retail | Growth |
|---|---|---|---|---|
| 1971 | 1,190 | 105 | 1,608 | 104 |
| 1972 | 1,232 | 104 | 1,720 | 107 |
| 1973 | 1,393 | 113 | 1,930 | 112 |
| 1974 | 1,531 | 110 | 2,210 | 115 |
| 1975 | 1,805 | 118 | 2,580 | 117 |
| 1976 | 1,992 | 110 | 2,810 | 109 |
| 1977 | 1,914 | 96 | 2,760 | 98 |
| 1978 | 1,901 | 99 | 2,810 | 102 |
| 1979 | 1,868 | 98 | 2,820 | 100 |
| 1980 | 1,895 | 101 | 3,000 | 106 |
| 1981 | 1,958 | 103 | 3,190 | 106 |

SOURCE: Japan Food Processors Association and Prime Minister's Office, Tokyo.

processors or even wholesalers, but were being garnered at the retail level. Leaps in the retail prices of loin ham between 1979 and 1981 seem only partially related to upswings in wholesale prices and quite unrelated to domestic producer prices (compared to prices in 1974-1977). Thus, the decline in per capita pork consumption seems to result from higher ham loin retail prices, which in turn reflect a broader retailers wedge, perhaps consequent on rising costs of store labour.

## Japan's Pork Processing Industry

Although Canada exports pork in part for table use in Japan, almost all incoming pork passes through the hands of Japan's meat processors on its way to wholesale and retail distribution. Although some Japanese department store and supermarket chains attempted direct pork imports in the late 1970s, virtually all have now gone back to sourcing through traders and/or processors.

The structure of the meat processing industry in Japan is shown in Tables 8 and 9. There are five large meat processors and another dozen putting out more than 2,400 tonnes per year. The number of these middle-sized companies are growing gradually such that scale economies in the industry appear to be on the increase. There is no basic industrial concentration trend. In 1980 there were more than 100 processors turning out 100 to 1,100 tonnes per year, and another 64 with even smaller production facilities. The very large number of small producers are only modestly

TABLE 8

JAPAN

Number of Meat Processors by Production Volume

| Yearly Production (tonnes) | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|
| more than 12,000 | 4 | 5 | 5 | 6 | 5 | 5 | 5 |
| 6,000 | 1 | 0 | 1 | 3 | 5 | 5 | 4 |
| 3,600 | 4 | 8 | 7 | 4 | 5 | 5 | 8 |
| 2,400 | 7 | 3 | 3 | 3 | 6 | 7 | 5 |
| 1,200 | 17 | 18 | 21 | 21 | 23 | 21 | 22 |
| 600 | 21 | 23 | 21 | 21 | 17 | 24 | 27 |
| 300 | 27 | 23 | 26 | 26 | 30 | 27 | 22 |
| 200 | 12 | 13 | 9 | 9 | 14 | 10 | 12 |
| 100 | 22 | 29 | 26 | 26 | 18 | 23 | 24 |
| 100 less | 80 | 73 | 80 | 74 | 72 | 68 | 64 |

NOTE: Fiscal year (April-March)

No basic change in concentration trend

Middle-sized companies are growing

SOURCE: Nikkan Kerizai Tsushin-sha

TABLE 9

## Japanese Meat Processors

## Capital Structure*

Break down by size (paid in capital)

| Capital, (¥ Million) | Number of Companies | (%) |
|---|---|---|
| less than ¥ 1 million | 22 | (11.4) |
| 1 - 5 | 39 | (20.2) |
| 6 - 10 | 27 | (14.0) |
| 11 - 30 | 42 | (21.8) |
| 31 - 50 | 22 | (11.4) |
| 51 - 100 | 14 | (7.3) |
| over 100 | 27 | (14.0) |
| | 193* | (100.0) |

NOTE: Number of companies: about 250

- many small companies

* Members of industry cooperative

SOURCE: Nikkan Keizai Tsushin-sha

capitalized as Table 9 shows. Of the more than 250 members of the Meat Processing Industry Cooperative Association only 14 per cent are capitalized at over ¥ 100 million (approximately CDN$0.5 million) by 1980.

As Table 10 shows, the four largest processors account for seven-tenths of the industry's ham and sausage output. Since 1975, there has been very little change in the shares of this market, although #3 Prima Ham has lost some ground while #4 Marudai has pulled up slightly. Some improvement in market shares have occurred for the #7, 8, and 9 processors, but these gains have been modest. In ham and bacon the results are virtually the same (see Table 11). Here again Marudai is gaining ground as are the three smallest producers, who rank differently from the sausage market. Here the top 9 companies have been losing market share overall--down 5 points from 1975--and currently control only about three-quarters of the total market.

Japanese Pork Production by Type

Over the past five years, production of Loin Roll has doubled in volume, whereas the former leading item--Press Ham--is close to half of its 1975 volume. Chopped Ham is up by a factor greater than three, as is Boneless Ham. One should remember that "Ham" is a generic term in Japan and does not only refer to pork meat from the thigh region but is used to broadly describe a range of processed pork cuts. The results shown in Table 12 show the shift in Japanese ham production by type to suit changing Japanese tastes.

TABLE 10

JAPAN

Market Shares of Meat Processors

Ham and Sausage Total

| | 1975 | | 1980 | |
|---|---|---|---|---|
| | Sales (1000 tonnes) | % | Sales (1000 tonnes) | % |
| 1. Ito Ham | 72.2 | 24.1 | 92.0 | 22.8 |
| 2. Nippon Ham | 53.9 | 18.0 | 73.0 | 18.1 |
| 3. Prima Ham | 49.1 | 16.4 | 56.1 | 13.0 |
| 4. Marudai | 30.5 | 10.2 | 50.0 | 12.4 |
| 5. Yukijirushi (Snow Brand) | 26.7 | 8.9 | 33.5 | 8.3 |
| 6. Rinken | 10.0 | 3.3 | 12.0 | 3.0 |
| 7. Takizawa | 6.0 | 2.0 | 9.5 | 2.3 |
| 8. Meiji-Kenko | 5.5 | 1.8 | 8.2 | 2.0 |
| 9. Takasaki | 5.2 | 1.7 | 8.0 | 2.0 |
| Total of 9 | 258.9 | 83.9 | 342.3 | 85.0 |
| Total | 299.3 | 100.0 | 403.1 | 100.0 |

NOTE: Total sales does not include non-member's sales

* The largest 4 account for nearly 70% of total industry sales

* No significant change in shares

SOURCE: Nikkan Keizai Tsushin-sha

TABLE 11

JAPAN

Market Shares of Meat Processors

Ham and Bacon Total

| | 1975 | | 1980 | |
|---|---|---|---|---|
| | Sales (1000 tonnes) | % | Sales (1000 tonnes) | % |
| 1. Ito Ham | 25.8 | 16.6 | 37.5 | 16.9 |
| 2. Nippon Ham | 29.4 | 18.9 | 33.0 | 14.9 |
| 3. Prima Ham | 25.6 | 16.4 | 27.6 | 12.4 |
| 4. Marudai | 15.6 | 10.1 | 27.5 | 12.4 |
| 5. Yukijirushi | 14.7 | 9.5 | 18.1 | 8.2 |
| 6. Rinken | 5.9 | 3.8 | 6.7 | 3.0 |
| 7. Meiji-Kenko | 3.2 | 2.1 | 5.6 | 2.5 |
| 8. Takasaki | 3.0 | 1.9 | 5.4 | 2.5 |
| 9. Takizawa | 2.5 | 1.6 | 4.6 | 2.1 |
| Total of 9 | 125.6 | 80.8 | 166.0 | 74.9 |
| Total | 155.3 | 100.0 | 221.8 | 100.0 |

NOTE: Total sales does not include non-members's sales

SOURCE: Nikkan Keizai Tsuhin-sha

TABLE 12

JAPAN

Production of Ham by Type

(Unit: Tonnes)

| | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|
| Loin Roll | 25,657 | 26,690 | 32,980 | 37,594 | 45,056 | 51,411 |
| Boneless | 6,583 | 10,082 | 14,661 | 16,564 | 18,670 | 20,561 |
| Bone in | 60 | 62 | 73 | 64 | 73 | 67 |
| Backs | 120 | 163 | 226 | 275 | 145 | 23 |
| Belly | 18 | 0 | 0 | 0 | 18 | 96 |
| Shoulder | 1,478 | 1,412 | 1,635 | 1,896 | 2,478 | 2,719 |
| Others | 2,894 | 3,108 | 2,232 | 3,089 | 4,636 | 6,206 |
| Press | 82,048 | 82,706 | 65,450 | 60,238 | 56,935 | 49,193 |
| Chopped | 15,107 | 25,078 | 54,878 | 58,229 | 55,208 | 52,053 |
| Mixed Press | 4,576 | 5,641 | 4,334 | 2,680 | 2,444 | 2,060 |
| Total | 138,531 | 154,942 | 176,469 | 180,629 | 185,663 | 184,389 |

SOURCE: Meat Processors Association, Japan.

Since Canada ships volumes of better quality loins--short cut backs and shoulders, demand for our products remained relatively firm, at least until 1980. Overall though, demand for ham in Japan has been relatively stagnant since 1977, while sausage and bacon have moved up steadily, (see Table 13). These two growing products rarely contain Canadian pork because of quality-price relationships. Note also that the largest unit price gains since 1977 have come in sausage and bacon rather than ham. Similar trends toward "quick food" can be seen in the data of Table 14. Hamburger-type meat has had the highest recent growth, along with frozen and canned meat products. Since 1977 there has been relatively modest expansion in the sale of all types of other processed meats.

The distribution of Japan's imported pork by end-user and cut is shown in Table 15. Table 16 shows Japan's pork imports by cut, by supplier country for 1979, in order to give a picture of the overall market structure. Several points are evident:

(a) Canada ships principally loin--SCB and is the largest supplier;

(b) Canada sells small quantities of ham, shoulders, and tenderloins;

(c) Canada exports virtually no bellies to Japan;

(d) US mix of products sold to Japan is more like Canada's, but features proportionately more shoulder and tenderloin, with somewhat less loin pork;

TABLE 13

JAPAN

Production and Trade of Processed Meat

(000 tonnes; ¥ Billion)

| | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|---|---|---|---|---|---|---|---|
| Ham | | | | | | | |
| volume | 139 | 155 | 176 | 181 | 186 | 184 | 180 |
| value | 166 | 194 | 229 | 235 | 252 | 253 | 252 |
| Sausage | | | | | | | |
| volume | 144 | 160 | 178 | 177 | 180 | 181 | 188 |
| value | 118 | 142 | 151 | 150 | 165 | 178 | 192 |
| Bacon | | | | | | | |
| volume | 17 | 19 | 25 | 29 | 34 | 37 | 42 |
| value | 23 | 29 | 36 | 42 | 46 | 52 | 61 |
| Total | | | | | | | |
| volume | 299 | 334 | 379 | 386 | 399 | 403 | 410 |
| value | 307 | 364 | 417 | 427 | 463 | 483 | 505 |

SOURCE: Meat Processors Association, Japan.

TABLE 14

JAPAN

Production of Processed Meat

(1000 Tonnes)

| | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|---|---|---|---|---|---|---|---|
| Processed Meat | 298 | 334 | 379 | 386 | 399 | 403 | 411 |
| Canned Meat | 38 | 43 | 51 | 58 | 65 | 65 | |
| Retoruto* | 45 | 41 | 40 | 48 | 49 | 49 | |
| Hamburger, etc. | 63 | 67 | 79 | 86 | 93 | 99 | |
| Frozen | 88 | 93 | 121 | 107 | 117 | 107 | |

* Retoruto is meat in a retort package.

SOURCE: MAFF Japan, and Canned Food Association, Japan.

TABLE 15

JAPAN

All Imported Pork Distribution by Cut

(1981)

| | Meat Processors | Wholesaler* (Commission Merchants) | Large Retailers | Total |
|---|---|---|---|---|
| Shoulder | 70 | 16 | | 100 |
| Loin--SCB | 82 | 9 | | 100 |
| Tenderloin | 57 | 24 | 15 | 100 |
| Belly | 84 | | | 100 |

* mainly selling to retailers

NOTE: The figures do not mean per cent of table meat etc. because it is unlikely that tenderloin is used for processing. But meat processors buy 57% of tenderloin and then sell part of it for table meat to retailers.

SOURCE: Meat Processors Association, Japan.

TABLE 16

JAPAN

Pork Imports by Cut by Country

1979

(000 tonnes, (%))

| | Shoulder | Loin | Tenderloin | Belly | Ham | Others | Total |
|---|---|---|---|---|---|---|---|
| US | 4.4 (16.9) | 17.0 (65.1) | 2.1 (8.0) | - | 2.4 (9.2) | 0.2 (0.8) | 26.3 (100.0) |
| Canada | 3.4 (11.0) | 21.1 (68.3) | 1.4 (4.5) | 0.1 (0.3) | 4.0 (12.9) | 0.9 (2.9) | 31.0 (100.0) |
| Denmark | 7.4 (19.0) | 15.9 (40.9) | 2.2 (5.7) | 9.5 (24.4) | 3.0 (7.7) | 0.9 (2.3) | 39.4 (100.0) |
| Sweden | 0.4 (6.9) | 3.7 (63.8) | - | 0.2 (3.4) | 1.5 (25.9) | - | 5.8 (100.0) |
| Ireland | 0.5 | 0.4 | 0.1 | 0.7 | 0.7 | - | 2.4 |
| Taiwan | 1.6 (29.1) | 1.4 (25.5) | 0.2 (3.6) | 0.5 (9.1) | 1.8 (32.7) | 0.9 | 5.5 |
| Australia | 0.1 | - | - | - | 0.2 | 0.0 | 0.3 |
| Mexico | 0.2 | 0.2 | 0.0 | - | 0.3 | - | 0.7 |
| Finland | - | 0.4 | - | 0.1 | 0.1 | - | 0.6 |
| Total | 18 (16.2) | 60 (54.1) | 6 (5.4) | 11 (9.9) | 14 (12.6) | 2 (1.8) | 112 (100.0) |

NOTE: This table was made up from "market share by cut" and total tonnage of each cut to produce a more precise cut combination for each country, (each figure includes rounding errors).

SOURCE: MOF, Japan.

(e) Denmark is relatively much more dependent on bellies and shoulders than is Canada; and,

(f) Taiwan specializes in ham, and to a lesser extent shoulders and loins.

Market shares held by Japan's principal offshore market suppliers in 1979 are shown in Table 17. From this it is clear that Canada is the leader in loins and ham, but is a distant third to the US and Denmark in both shoulders and tenderloin. Canada is clearly dominated by Denmark in the belly market. These ratios show that the three leading suppliers do compete especially in loins and shoulder, but their profiles are not identical. Nevertheless, US and Danish products clearly pose the greatest competitive challenges to Canada in Japan's import pork market.

This point is underscored by the local price data from Tokyo given in Table 18. Up to carcase level, Canada and the US were the least expensive suppliers in 1980. The effect of the CAP-Danish export subsidy should be noted. It makes Danish cut meat highly competitive with Canadian and American pork in Japan. Although direct comparisons by retail price are hazardous due to differences in product mix (see Table 16), these data strongly suggest that more value-added goes in at the packers level in North America than Denmark, and that in 1980 Canada had a slight competitive edge over the US in production costs. As is noted in a later section, this margin has probably been recently reversed, leaving Canada as Japan's high cost supplier among the Big Three by 1984.

TABLE 17

## Market Share by Cut

## Fiscal Year 1979

| | Shoulder | Loin | T-Loin | Belly | Ham | Others | Total |
|---|---|---|---|---|---|---|---|
| US | 24.7 | 28.4 | 34.9 | - | 17.4 | 9.4 | 23.6 |
| Canada | 19.1 | 35.2 | 22.7 | 0.5 | 28.4 | 43.9 | 27.7 |
| Denmark | 41.1 | 26.5 | 37.3 | 86.5 | 21.7 | 44.6 | 35.2 |
| Sweden | 2.0 | 6.1 | - | 1.7 | 11.0 | - | 5.2 |
| Ireland | 2.6 | 0.6 | 1.9 | 6.4 | 4.7 | - | 2.1 |
| Taiwan | 8.8 | 2.3 | 2.6 | 4.3 | 12.7 | 2.0 | 4.9 |
| Australia | 0.8 | - | - | - | 1.1 | 0.1 | 0.3 |
| Mexico | 0.9 | 0.3 | 0.6 | - | 2.2 | - | 0.6 |
| Finland | - | 0.6 | - | 0.6 | 0.8 | - | 0.5 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

SOURCE: MOF, Japan.

TABLE 18

JAPAN

Local Price Comparison

(1980 Average)

Unit: Yen/Kg. (local currency)

| | Producers Price (live hog) | Wholesale Price (Carcass*) | Retail Price (Cut) | Exchange Rate March 31, 1981 |
|---|---|---|---|---|
| US | 174 (0.83) | 238 (1.13) | 646 (3.08) | US$ = ¥210 |
| Canada | 172 (0.97) | 230 (1.30) | 624 (3.52) | CAN$ = ¥177 |
| Denmark | 318 (9.96) | 393 (12.32) | 670 (20.98) | Denmark=¥31.92 Krone |
| Taiwan | 242 (39.74) | 345 (56.73) | 426 (70.10) | Taiwan$=¥6.09 |
| Japan | 415 | 627** | 1,450*** | |

SOURCE: Research by Japanese Government

* with skin, without head and legs

** without skin

*** wrapped

## Recent Results in Canada-Japan Pork Trade

The profile of Canada's pork export trade with Japan during the period 1976 to 1981 is given in Tables 19 and 20. In value terms, Japan has been declining in relative importance as a destination for Canadian pork exports since 1977. In that year, Japan was the customer for 83.6 per cent of all Canadian pork exported, but by 1981 this proportion had fallen to 50.4 per cent by value. Moreover, on a volume basis the shift has been even more dramatic, from 76.8 per cent in 1977 to 33.6 per cent in 1981. These data clearly indicate that the relative unit value of items sold to Japan has been rising. To put it another way, pork sales to Japan have featured a progressively more valuable mix of products over the past six years. Even though the US has increased its role as a market for Canadian pork products, shipments to America are of a lower unit value than shipments to Japan. This trend towards exporting higher value added--higher quality products to Japan appears to be long-term.

While the shift in export market importance has been going on since 1977, there is also evidence that points of origin for shipments of pork from Canada to Japan has shifted somewhat over the years from Western Canada--principally Alberta and Manitoba--to Eastern Canada--especially Quebec and Ontario.*

---

* Western hog production fell 36 per cent 1974 to 1976 and 46 per cent from 1978 to 1980. Eastern production in 1982 was 73 per cent greater than during 1971-74; Report of the Working Group, op. cit., p. 38.

The proportions of fresh frozen pork shipped from Canada to Japan in 1982 appears to have been*:

| Province Region | Per Cent of Total Volume Shipped |
|---|---|
| British Columbia | 2.56 |
| Alberta | 5.43 |
| Saskatchewan | 3.84 |
| Manitoba | 4.51 |
| Ontario | 30.17 |
| Quebec | 53.49 |

Unfortunately, these shipments cannot be further broken down into cuts of pork by province of lading given our current data series. For the country as a whole, Tables 19 and 20 do give a clear picture of the mix of pork products sold to Japan and the changes that have occurred since 1977. The data in these tables may be summarized as follows:

(a) unprocessed frozen cut pork meat dominates the export manifest, with 500 thousand cwt. shipped in 1976 and over 800 thousand cwt. in 1981;

(b) uncured and uncooked hams grew in export volume from 90 thousand cwt. in 1976 to 120 thousand cwt. in 1981, but sales volume showed sharp cycles;

(c) shipments of canned hams and pork have been inconsistent and virtually halted in 1979;

---

* The source of these data is Statistics Canada, bill of lading data. However, this series is incomplete and may include some pork moving inter-provincially.

TABLE 19

Value of Canadian Exports to Japan of Pork

($ 000)

| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|---|---|---|---|---|---|---|
| Pork Bellies - fresh or frozen | 104 | 73 | 429 | 499 | 156 | 362 |
| Hams - not cured or cooked | 11,577 | 20,611 | 19,460 | 20,403 | 10,118 | 22,596 |
| Pork spare ribs - fresh or frozen | - | - | - | - | 13 | 307 |
| Pork - fresh or frozen, nes | 63,370 | 78,235 | 109,979 | 114,166 | 115,008 | 156,263 |
| Fancy meats, pork - fresh or frozen | 579 | 12 | 204 | 364 | 197 | 766 |
| Bacon - cured | 3 | 3 | - | 1 | - | - |
| Hams - cured | 166 | 22 | 64 | 1 | 1 | - |
| Pork - cured, nes | 144 | 53 | 33 | - | - | - |
| Boiled Ham - cooked | 1 | - | 1 | 1 | - | - |
| Hams - canned | 6 | 6 | 16 | 138 | - | - |
| Pork - canned, nes | 24 | 8 | 6 | 23 | - | - |
| Total | 75,944 | 99,023 | 130,192 | 135,596 | 125,493 | 180,294 |
| Proportion of total Canadian pork export | | (83.6) | (74.5) | (60.1) | (44.7) | (50.4) |

SOURCE: Statistics Canada

TABLE 20

Volume of Canadian Exports to Japan of Pork by Weight

(cwt)

| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|---|---|---|---|---|---|---|
| Pork Bellies - fresh or frozen | 866 | 559 | 2,514 | 2,729 | 1,013 | 2,819 |
| Hams - not cured or cooked | 90,398 | 151,564 | 109,949 | 109,514 | 52,657 | 121,121 |
| Pork spare ribs - fresh or frozen | - | - | - | - | 99 | 2,281 |
| Pork - fresh or frozen, nes | 499,845 | 587,894 | 588,208 | 589,636 | 648,785 | 809,954 |
| Fancy meats, pork - fresh or frozen | 9,836 | 759 | 4,058 | 3,019 | 2,437 | 13,069 |
| Bacon - cured | 12 | 11 | - | 4 | - | - |
| Hams - cured | 1,314 | 162 | 500 | 4 | 3 | - |
| Pork - cured, nes | 989 | 520 | 242 | - | - | - |
| Boiled Ham - cooked (lb) | 750 | - | 503 | 485 | - | - |
| Hams - canned (lbn) | 1,440 | 629 | 3,497 | 51,960 | - | - |
| Pork - canned, nes (lbn) | 26,577 | 8,500 | 650 | 6,000 | - | - |
| Total ('000 tonnes) | | 33.6 | 31.8 | 31.8 | 31.8 | 42.5 |
| Proportion of total Canadian pork exports | | 76.8% | 59.0% | 41.3% | 27.6% | 33.6% |

SOURCE: Statistics Canada

(d) frozen pork bellies have a modest market in Japan; and,

(e) Canadian cured ham and pork, bacon, and cooked ham do not find steady customers in Japan.

It has been estimated that at the present time about three-fifths of all Canadian pork exports originate from the province of Quebec. Another one-fifth to one-quarter comes from Ontario and the rest from Western Canada.

Canadian exports to Japan in the last two years have been made up roughly of 66 to 68 per cent loins (SCB and tenderloin) and with ham accounting for 14 to 15 per cent. The top end of the market, Canadian tenderloin along with a growing proportion of our SCB goes for table meat.

Nippon Ham buys about one-third of all pork sold from Canada to Japan and uses 70 per cent of it as table meat. However, the other three large processors are thought to use rather smaller proportions for table meat and more for processing into other finished products. Canada is virtually the only supplier of pork table meat to Japan at the present time. It appears to have established this market niche on the basis of high quality and reasonable price relative to domestic supplies of table meat which have dominated this market historically. Threats by American packing houses to challenge in this market, with Canadian-originated pork or their best domestic meat, are very real given the wage differential now favouring US producers.

In summary, Canada has done well exporting frozen pork loins, butts, shoulders, and some hams to Japan but has had little success exporting processed pork, probably because of the unique taste requirements of the Japanese end-user. Nevertheless, this trade with Japan is of above-average value per tonne to Canadian hog producers and packing houses, and merits careful examination.

Quebec Hog Production and Japan Pork Market

About one-third of all pork produced in Quebec is excess to Canadian consumption requirements and this means that the province has large quantities of pork from which it may choose for export purposes. Of the exportable surplus, Quebec ships some two-thirds to Japan. This has prompted Quebec farmers, integrators and packing houses to develop a pork product that precisely matches the input requirements of the Japanese market.

Quebec has no pork marketing board. This has allowed private corporations to dominate the pork production market. It has led to the development of the Integrator system. Integrators are usually feed companies. There are 22-25 large integrators and some 30-35 smaller integrators operating in Quebec. The integrators supply the farmer with baby hogs, feedstuff and medicine. The integrators own these hogs so that the farmers are simply subcontractors who rear the hog by providing hog-houses equipment, power, and labour. Farmers usually get $8 to $10 per hog sold, plus some percentage of final market price according to a well understood index system.

Integrators suggest the shipment dates for the finished hogs. These are usually matched to packing house requirements which arise, in part, from orders placed for shipments to Japan. Under this system farmers have little exposure to the risk of market fluctuations. Yet the production system remains flexible and responds rapidly to changes in market prices and requirements. Each large integrator has contracts with perhaps 150 farmers. The contract usually specifies that any government subsidy should be paid to the integrator rather than the farmer, and that the farmer should not grow other integrator's hogs.

The activities of the integrators have made it possible to produce uniform standardized hogs on a large scale in Quebec. Financial and technical assistance offered by integrators to farmers in Quebec should be regarded as one of the most important contributions to the recent growth of Quebec's hog production. There are also other factors in play. Quebec produces no major crops and therefore hogs are a specialty for the farm sector; there is no hog supply management unlike milk products and chicken in Quebec; low interest loans were offered by the Quebec Government to the meat packers to get them started (this assistance has now ceased); and the hog brokers and Canadian trading companies have been very active in seeking new markets for Quebec's exportable pork surplus.

Today, there are approximately 5,000 hog producers in Quebec of whom 3,000 are sow growers, 2,000 are hog growers, together

with a few who produce sows, piglets, and hogs. Until recently, approximately 70 per cent of all Quebec hogs were produced through the integrator system, but the Quebec governments introduction of insurance for small hog farmers has increased the number of independents. The ratio is now believed to be 60 per cent of Quebec hogs produced through the integrator system and 40 per cent by independent farmers. However, it is well to recall that many Quebec operators are of substantial scale; 1/4 of all Quebec's hog producers turn out 80 per cent of the total output.

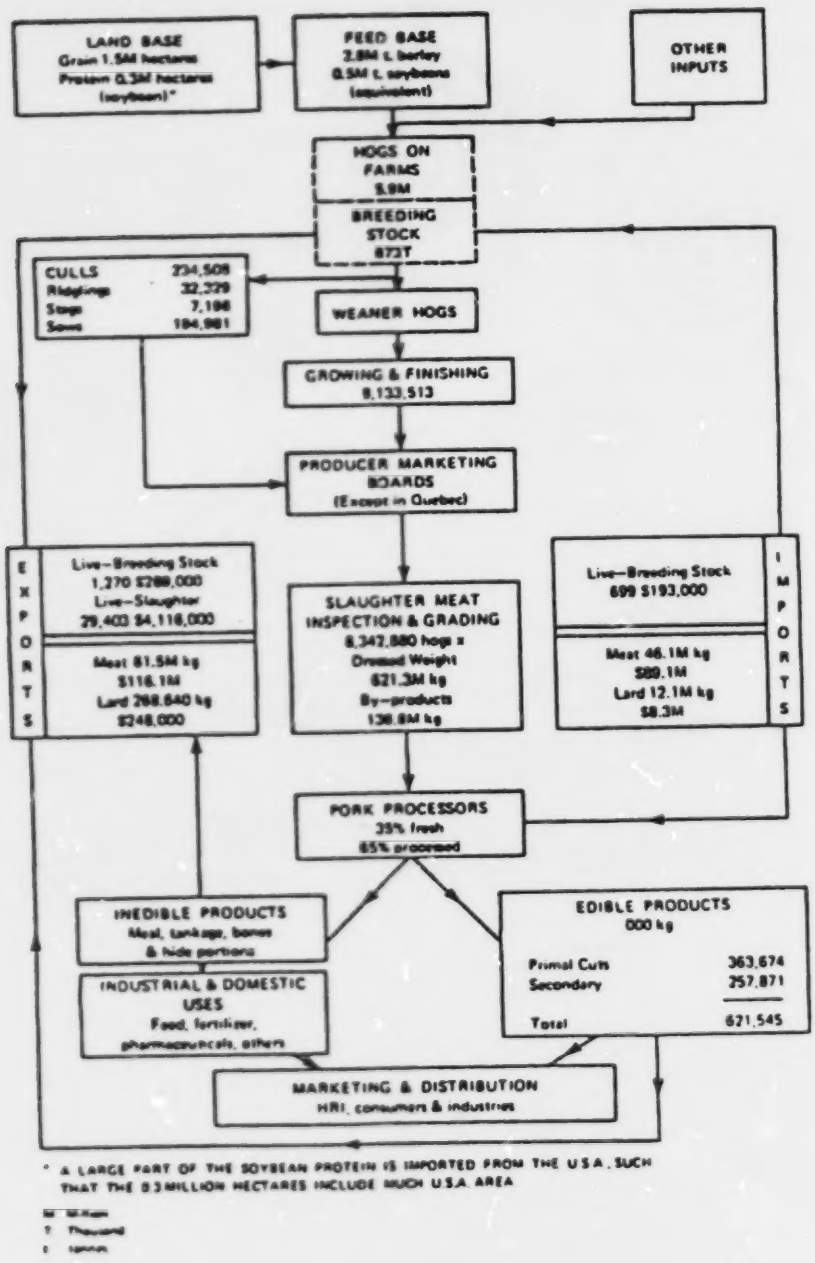
Canada-Japan Pork Export System

Canada's export pork industry to Japan is a highly complex and structured industry. At the beginning of the production process stand the hog farmers. In the Province of Quebec they receive their weaners from integrators who are often associated with animal feed companies. Besides providing the weaners, the integrators also sell feed and medicine and buy the finished product back from the hog farmer. In other provinces farmers sell directly to a marketing board or an association. The degree of governmental involvement in marketing boards varies. For instance, the Ontario hog marketing board is left to run itself with very little government intrusion.

The packing houses buy hogs from independent farmers and integrators in Quebec, and from various marketing boards and associations in Ontario, Manitoba, Saskatchewan, and Alberta.

# THE CANADIAN PORK SYSTEM

## 1975

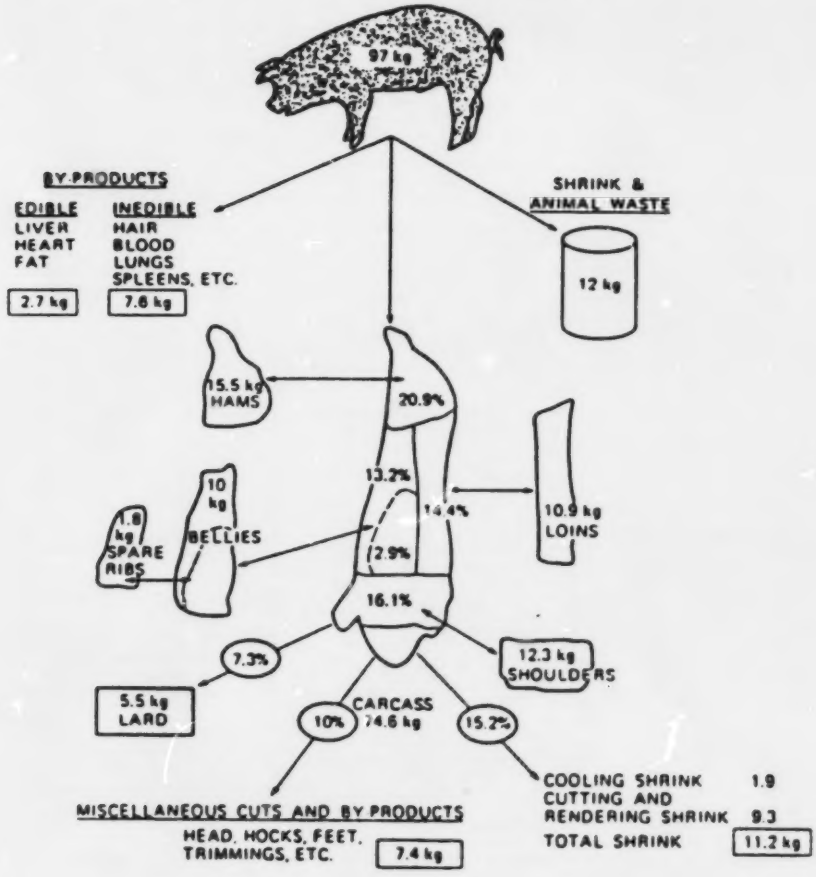



* A LARGE PART OF THE SOYBEAN PROTEIN IS IMPORTED FROM THE U.S.A. SUCH THAT THE 0.3 MILLION HECTARES INCLUDE MUCH U.S.A. AREA

M Million
T Thousand
t tonne

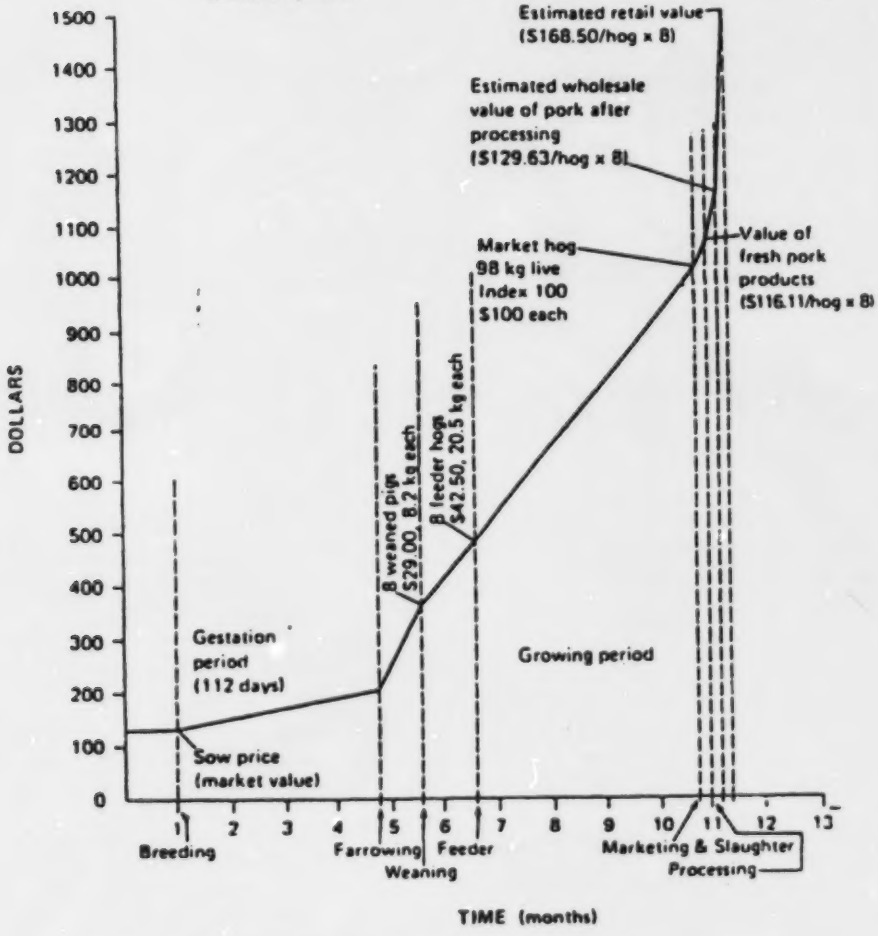
SOURCE: Agriculture Canada, Orientation of Canadian Agriculture, Vol. 1 part B, Ottawa, 1977

## APPROXIMATE DISPOSITION OF A MARKET HOG




Source: Food Prices Review Board

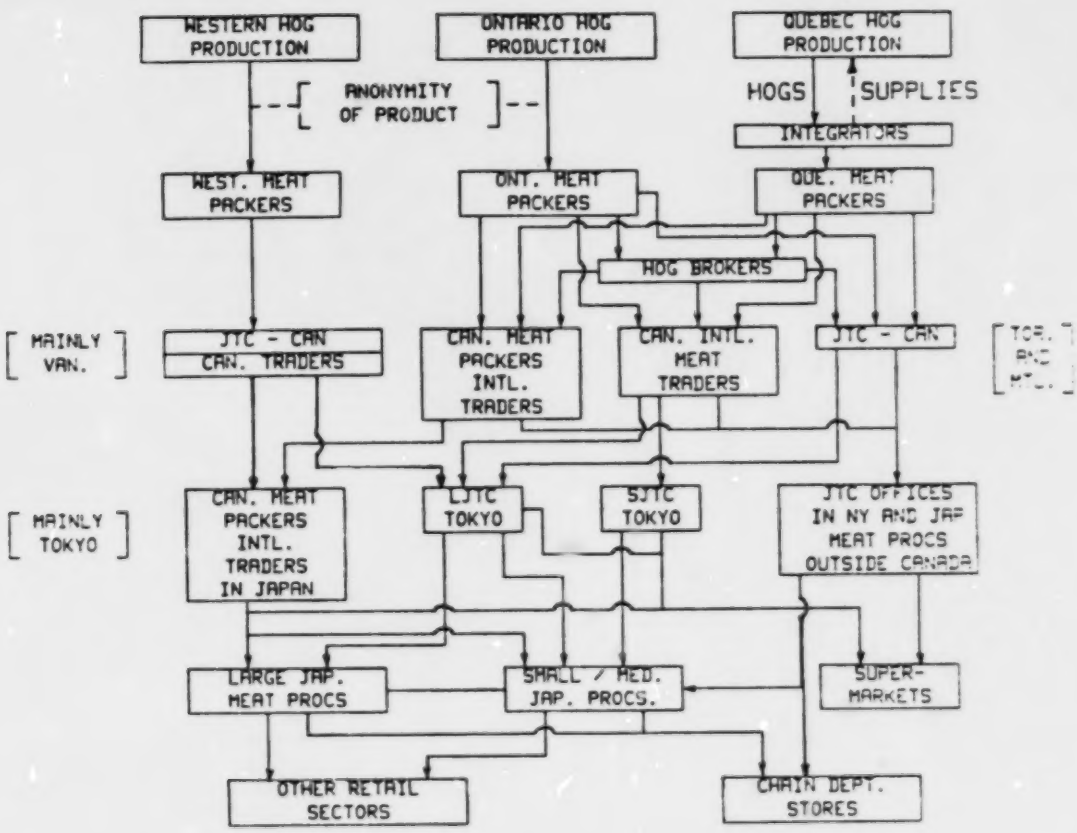
**ESTIMATED VALUE-ADDED COMPONENTS IN SWINE PRODUCTION, PROCESSING AND MARKETING CYCLES, CANADA, 1975 [a]**




[a] Estimates are for a one sow production unit, time periods and values are subject to variation and should be viewed as representative only.

Source: Agriculture Canada, Orientation of Canadian Agriculture, Vol. 1 Part B, Ottawa 1977

# STRUCTURE OF CANADA'S PORK TRADE WITH JAPAN




LEGEND:

| | |
|---|---|
| JTC - CAN | JAPANESE TRADING COMPANIES OPERATING IN CANADA |
| LJTC | LARGE JAPANESE TRADING COMPANIES |
| SJTC | SMALL JAPANESE TRADING COMPANIES |
| PROCS | PROCESSORS |

The packing houses are usually producing more than just pork products. They are often involved in beef, chicken and other meat also. The extent of production within the packing house industry varies. For instance, in Quebec few packing houses proceed beyond the killing, trimming, and preparation stage to the final meat processing for wholesale and retail. However, in Ontario several large packing companies produce end-products for retail use, and the same is true among Prairie packing houses.

When pork has been prepared in a packing house for export to Japan, it is then ready for sale. In many cases the sales have been made in advance of the actual packing house production operation. The export sales system to Japan is complex and many layered. It is probably correct to say that there are virtually no cases of Canadian packing houses selling direct to end-users in Japan without the efforts of trading intermediaries being involved. Typically, a Canadian packing house will sell to a pork broker, a Japanese trader with a Canadian office or a Canadian trader centered on Montreal, Toronto, or Vancouver. The brokers may subsequently offer the product to traders. The Canadian-based traders--be they domestic or Japanese--seek buyers in the Japanese market, occasionally among large processors, but more often among meat importers on the Japanese side. Japanese meat importers include the offices of Japanese meat processors in North America, Canadian traders in Japan, Japanese trading houses in Tokyo, and Japanese meat brokers. Unless the Canadian side sells directly to a named Japanese meat processor probably in North America, the

seller may not know who the final buyer is. In many cases, sales are made to Japanese trading companies, Canadian agents in Tokyo, or Japanese meat brokers without the name of the end-user being revealed. Consequently, there is no direct cash contact between end-user and meat-packer through the market place. But Japanese end-users regularly visit the major Canadian pork meat-packers in order to inspect their plants, discuss quality and price, and talk about new cutting specifications.

In Japan itself, the large meat processors occasionally buy for the small and medium size processors to whom they charge a fee if they pass on product sourced through the import/export trade network from Canada. Japanese supermarkets and department store chains did make an attempt to import pork directly from Canada three or four years ago, but this did not prove successful. Now Japanese supermarket and department store chains use the same import network as meat processors in Japan. Altogether there are about forty importers of pork in Japan.

Canada has been a major source of high quality pork products for Japan for the last 15 years. About 65 to 70 per cent of all Canadian pork is produced in Ontario and Quebec. Although these provinces have considerable domestic demands, and export some of their product to the US market, they usually have up to one-third of finished pork output available to sell to Japan or other third markets. On the other hand, Western Canada is close to being just self-sufficient in pork with some residual exports being made to

the US. Consequently, there is a smaller proportion of total output available for sale to the Japanese market.

The West also does not sell very much processed pork to Japan, but that is true of the rest of Canada, and most overseas suppliers. The Japanese have their own very demanding specifications for processing pork products which cannot readily be met offshore. Moreover, the processed product would require a great deal of labour intensive input which would make it uncompetitive in the Japanese market. Consequently, pork meat sold to Japan from Canada is principally in the form of loins, shoulders and hams. Depending on the price product mix prevailing at the particular time, the following ratios of product are likely for Canadian pork product exports to Japan:

| | |
|---|---|
| Tenderloin | 5% |
| Short Cut Back (loin) | 65% - 80% |
| Shoulder | 10% - 15% |
| Ham | 5% - 15% |

Canadian pork is sold frozen and is shipped in refrigerator containers at -18 degrees centigrade. About four-fifths of the trade moves in 40,000 pound containers while the rest is shipped in smaller 20,000 pound containers.

## What Are the Key Quality Factors Looked For By the Japanese Buyers?

Among the most important pork features sought by Japanese buyers are good meat, solid muscle, a large eye of the lean,

attractive appearance, and freshness. Such meat must have low levels of pale, soft exudiary (PSE) pork, consistency of cut, well trimmed fat, and neatness of individual wrap.

Key factors in producing pork to export to Japan may be enumerated as follows:

a) Use top quality hogs.

b) Be very careful in after-slaughter selection.

c) Cutting must be precise attempting to leave less fat than specification so as to give the processors a good yield; this is done by a machine but the final check must be done by hand even in large plants. Notice that Japanese specifications for cutting are different from those for the North American market. Therefore, cutters must be trained especially to produce to Japanese specifications.

d) Maintain product consistency to assure no variation, with every cut identical.

e) After cutting, meat selectors must determine what can be sold to Japan and what should be sold in the US and Canada, or other markets.

f) Selectors must be "Japan-export-minded" and consistent in their choice of tenderloin, short cut back, and ham selected for the Japanese market. Top quality processors spot check 3 to 4 cartons a week working with the line foreman. The foreman himself must have a quality control viewpont based upon his knowledge of the requirements of the Japanese processors and other end-users.

Hogs: Production Uniformity

The majority of hogs being reared in Quebec and Ontario are of the Yorkshire breed. This breed was formerly developed to produce product for the UK bacon market. Large farmers in the

central provinces are highly professional producers of these heavyweight hogs. Hogs in the Western provinces are often of a similar breed, but because of smaller farms, the size is not so uniform as in the central provinces. The quality of hogs marketed on a consistent basis is a measure of the management ability of the operation. Several interviewees felt that lack of consistency reflected on the professionalism of farmers in their approach to hog production. Moreover, in the West, hog producers appear to be scattered and often far a field from slaughter houses. Therefore, their trucking costs to slaughter are higher and the chance of damage occurring to the hogs between farm and slaughter house is increased.

Given the way the Ontario hog marketing system works the buyer cannot choose the particular hogs he wishes to buy. He simply puts in a bid for hogs of a certain class or type and receives an allocation for his bid. There is, therefore, no difference among Ontario packers in terms of the hogs themselves, and all quality differentials must be due to post-purchase, and factors among the meat packing houses. Similarly, the Quebec integrator system which produces about three-fifths of all that provinces hogs, tends to result in uniformity of finished hog.

Pork Quality

(1) Yield

Although price of the finished product is obviously an important consideration in the buying decision by the

Japanese end-user, the interviews undertaken for this study have shown that the balancing of quality with price is fundamental to the buying decision. Japanese buyers are prepared to bid higher if they can be assured of high quality product. Quality is synonomous with brand name reliability. Consistency of produce requires small amounts of pale soft exudiary (PSE) pork, low levels of fat and standardized cutting. These qualities give rise to higher yields of end-products for Japanese processors and they are, therefore, prepared to offer higher prices if such quality is available.

(2) Pale, Soft, Exudiary Pork (PSE)

In the early days of Canadian pork shipments to Japan (1960s) PSE was among the most important consideration in buying pork. However, in recent years Canadian hog producers have managed to reduce the amount of PSE in their product to such low levels that it is no longer a great concern for the Japanese.

Typically, the maximum proportion of PSE allowed is 5-6 per cent. The Canadian average since 1981 has been around 3-5 per cent and the Japanese believe that 2-3 per cent PSE is good. The leading Canadian brand in 1983 averaged less than 0.5 per cent PSE in its pork exports to Japan.

Since the processors must cut out PSE pork from the final product if it is to be used for anything but table meat, then the proportion of PSE clearly has an important impact on overall product yield.

Nowadays, it is clear that Canada has achieved a standard of PSE which is lower, on average, than any of its competitors. There is much less worry among the largest Japanese processors (Itoh Ham, Nippon Ham, Prima, and Marudai) concerning the proportions of PSE in Canadian products. However, these companies still send technicians and inspectors to the US packers and are very often concerned about proportions of PSE in Taiwanese and Danish pork meats.

It should be noted that the cold climate in Canada also seems to help with PSE. Its incidence is lowest in the winter months. In the summer time PSE increases in Canada because of the warmer weather. These factors may also affect the seasonal pattern of Japanese pork purchases from Canada.

There are several known causes of PSE. Over the last decade, the Canadian industry has made great strides in reducing PSE through implementing better practices in the handling and killing phases of the hogs.

(3) Hog Handling Phase

Journeys to slaughter houses can put a great deal of stress on hogs and sometimes they will die of a heart attack in transit. The handling of the hogs prior to killing is important. In the US it is common to give pigs a warm shower to lower their stress prior to killing. A leading Canadian company allows the pigs to relax 3-4 hours after their journey to the slaughter house before proceeding to the killing phase. By undertaking careful handling of pigs, packing houses are able to lower their PSE and improve their brand-name quality recognition.

(4) Hog Killing Phase

There are a number of theories about sources of PSE in pigs at the killing phase and how it can be reduced. It is clearly important to have the correct strength of electric shock applied to the pig before the head is cut. The Japanese visitors often time the phase between stunning and killing as they believe that this affects the quality of the meat. One Ontario plant with a very high quality rating has a slow speed of killing. Its output is one-third the rate of other packers and uses two shifts instead of one for the same number of hogs. It is believed that 5-7 seconds is the ideal time for blood to be fully drained to avoid red spots being left in the meat. In Quebec, killing plants and packing processing plants are not always in the same place. This should not mean any difference in freshness for the product,

but to the Japanese buyers' mind, there can be a big difference. When a boning plant is in a different location from the killing plant this appears to affect freshness. Top quality appears to result if you kill the hogs in one day and turn them into products the next with no transportation move in between.

(5) Meat Cutting

The objective is to produce a well-trimmed product with low fat, that is inside the specifications laid down for the Japanese market, while maintaining labour cost effectiveness.

The major product produced by Canadian meat packers for Japan is the loin (US name) or short cut back (Canadian name) here after referred to as SCB. Some packers also produce top-of-the-line tenderloin cuts for the Japanese market. Given the price-product mix requirements of the Japanese market, Canadian meat packers also sell butts and ham to Japan.*

The majority of Canadian SCB bound for Japan is for use in ロース, ("Löss Ham")** Because this ham is among the most expensive produced by the Japanese meat processors, the

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* See section on Price-Product Mix Below.

** ロース in Japanese sounds phonetically like "Löss Ham", or ham of very good quality.

Canadian packing quality is very important. Pork must be cut specifically to each buyer's specification to ensure highest quality and premium earnings. There can be no variation in shipments.

Some packers cut fat to just the acceptable level for Japan with occasional lapses. Others trim fat as low as 1/8-1/4 inch although the specifications allow for 1/4-1/2 inch fat. This determination to exceed specifications results in improvements in a packer's reputation for quality. Some Ontario packers consistently give customers less fat than specified as a matter of policy. This has resulted in premium prices being paid for their product, since the practice increases the end-users yield.

(6) Wrapping and Boxing

Wrapping the tenderloin, SCB, butt or ham before it is shipped to Japan is also very important. The wrapping should retain a good shape for the ham part and each piece must be wrapped individually in a style which is invariant. The most successful Canadian meat packers have more checkers and wrappers on the wrapping line than their less successful counterparts. When product is wrapped it should be frozen immediately in good shape.

A leading Quebec meat packer developed what is now the standard size package shipment to Japan. This holds

approximately 20 Kg. of SCB. This replaced the old 90 pound package and is easier to handle and presents the product much better. Packaging is more important in the Japanese market than most others, e.g. a cheap gift in a neat box is more acceptable to a Japanese, than an expensive but unwrapped gift. Today, all Canadian packers as well as the Danes use the Quebec-developed package style. This has reflected very well in the Japanese evaluation of the Quebec packing house industry.

It is preferable if the whole process between the killing, cutting, selecting, wrapping, packaging, and freezing can be completed in 36 hours.

Prices and Product Mix In Canada-Japan Pork Trade

The Japanese import regime makes it important that suppliers overseas should attempt always to match the Standard Import Price. Since Canada is typically a supplier of the top-end of the market, it is not unusual for Canadian product to exceed the Standard Import Price (SIP). In order to assure that a 40,000 pound container has an average value equal to the SIP in terms of yen per kilogram it is necessary to mix together various cuts of pork in order to achieve an average value which will satisfy the SIP.

Importing pork products at above the SIP will result in higher than necessary tariffs being charged. If the price works out at or above the SIP a 10 per cent ad valorem tariff is applied. A

differential tariff is applied to bring the product price up to the SIP if the landed price is below it. (See Chart 2). In circumstances when there is a shortage of pork in Japan, their authorities will use a lower than Standard Price called the Proclaim Price as the basis for tariff valuation, and grant a tariff exemption above this Price in order to induce a flow of pork imports. When this regime is in force (see Chart 3), the requirements to mix products within a 40,000 pound container are not so serious.

The normal SIP regime with a 10 per cent ad valorem tariff requires that product be carefully assembled and mixed so as to produce an (see Chart 2) attractive average price. In February 1984, product prices for pork from Quebec were as follows:

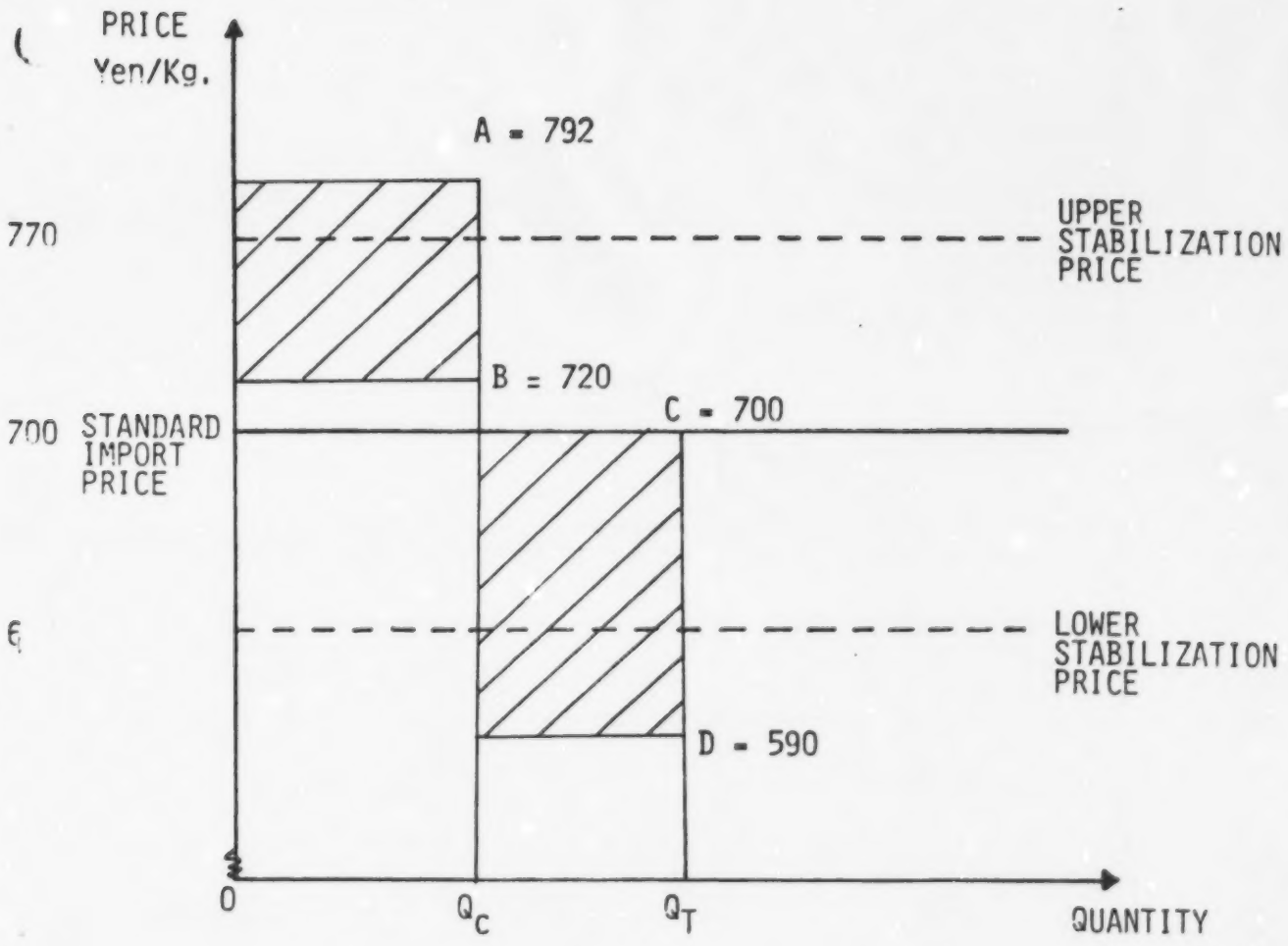
| | |
|---|---|
| Tenderloin | $420 -- 100 lbs. |
| SCB (loin) | $180 -- 100 lbs. |
| Butts | $140 -- 100 lbs. |

To obtain the C&F Yen import price equivalent of an SIP of say $165 per 100 lbs., it is necessary to combine loin and butts in a particular proportion to achieve the average price. Therefore, a typical current order might be SCB 36,000 lbs. and butts 4,000 lbs. to make up a container load. The method of making the "price mix" calculation is given in the attached Table 21.

About nine-tenths of the time pork orders will require a container combination of SCB for expensive ロース "Löss Ham"; butts for cheaper Press Ham; and tenderloin for table fillet and

CHART 2

JAPANESE TARIFF REGIME
TO SUPPORT SKINNED
PORK CARCASE
STANDARD IMPORT PRICE



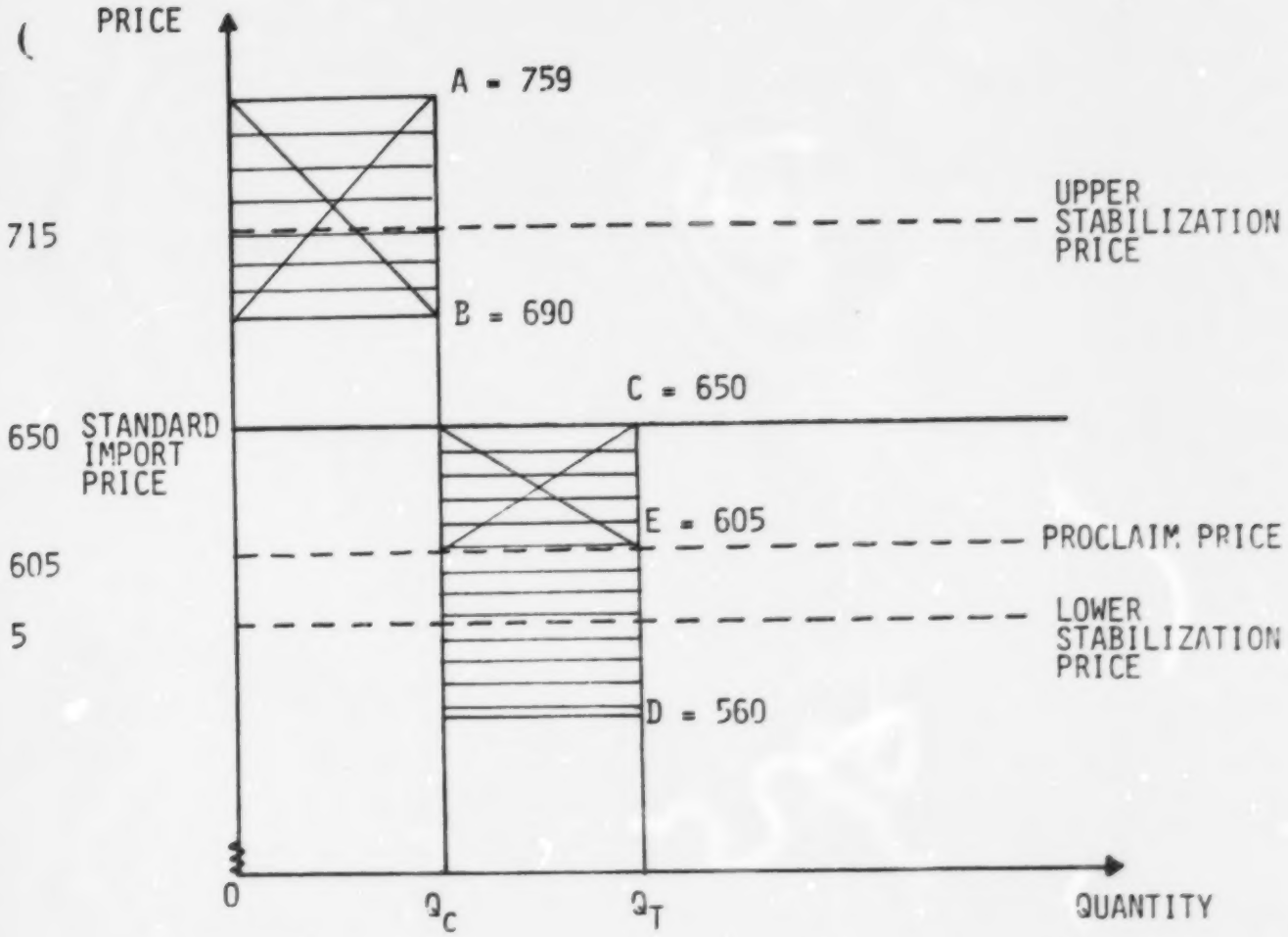

$OQ_C$ - High Quality Imports

$Q_CQ_T$ - Lower Price/Quality Imports

AB - 10 Per Cent Ad Valorem Tariff on Unit Price $Q_CB$

CD - Differential ( 10 Per Cent) Tariff on Unit Price $Q_TD$

# JAPANESE TARIFF REGIME WHEN WAIVING TARIFFS ABOVE PROCLAIM PRICE




| | | |
|---|---|---|
| $0Q_C$ | - | High Quality Imports |
| $Q_CQ_T$ | - | Lower Price/Quality Imports |
| AB | - | 10 Per Cent Ad Valorem Tariff Exemption |
| CE | - | Differential Tariff Exemption |
| DE | - | Differential Tariff to Reach Proclaim Price |

TABLE 21

**Example Of**

**Mixing Product To Adjust To The Japan**

**C&F Sales Price**

CALCULATION COMBINATION PRICE - 2 ITEMS: TOTAL 40,000 POUNDS

| | | | |
|---|---|---|---|
| A) | C&F SALES PRICE | YEN | 827.- |
| | FOB BUYING PRICE | CANDOL | 183.- |
| B) | ASKING PRICE | SCB | $196.- |
| | | BUTTS | $115.- |
| C) | FIGURE DIFFERENCE BETWEEN THE TWO ASKING PRICES 196.- - 115.- | | $ 81.- |
| D) | FOB AVERAGE PRICE (A) 183.- LESS LOWER ASKING PRICE 115.- | EQUALS | $ 68.- |

E) 68.-(D) X 40,000 ÷ BY 81.- (C)
EQUALS 33,600 LBS. QUANTITY OF EXP. ITEMS
LEAVES 6,400 LBS. CHEAP ITEM

33,6 X 196.- PLUS 6,4 X 115.- AVERAGE BUYING

PRICE $183.04 (see A)

SOURCE: Northam Food Trading, Inc., Montreal.

*tonkatsu*. Occasionally boneless ham is also added to the container load. There have been cases of Canadian trading houses buying US pork for export to Japan in order to achieve the proper product mix inside a container in order to match the SIP requirements.

In recent months, high unit labour costs in Canadian packing houses has caused a diversion of Canadian hogs to US packing houses. From there products may be shipped directly to Japan or back to Canada for mixing to make up an SIP container load.

## The Role of Brand Names in Canada-Japan Pork Trade

### (1) Leading Canadian Brands

The leading Canadian brands from Quebec are Turcott-Turmel, Salaison Olympia, and St. Jean et Fils; from Ontario are Canada Packers and Schneiders (Kitchener); and from the West the main additional brands are Gainers, Fletchers, and at some date, Schneiders (Winnipeg). The big five Japanese pork processors visit many Canadian plants continuously to check on activities, workers and quality. When ordering from Canada, a brand name is always designated together with cut of pork desired and an offered bid. From a Canadian standard point there may appear to be little or no difference in quality among the leading Ontario and Quebec meat packers, but the Japanese are always exceedingly brand conscious. Each Japanese end-user (meat processor or retailer) has its own brand priority list for each product. Orders are placed by priority brand.

(2) Origins of Brand Preferences

Brand consciousness is widespread among Japanese buyers regardless of their business size. A brand name is viewed by the Japanese buyer as a warranty against getting stuck with poor product. If indeed the product does not measure up to PSE requirements, cutting specifications, freshness, wrapping and boxing, or other mistakes are made, then the brand will be shut out of the market. Mistakes are punished so heavily, that the Canadian producer must protect his brand name image if he is to maintain a strong selling position in the Japanese market.

(3) Brand Yield

Brand preference is based upon the past history of a Canadian meat packer. "How many claims have been made against this packer for excess PSE, too much fat, or product that is 1/4 inch shorter or longer than specifications, involving only 5 per cent of the total shipment?" To the Japanese buyers, incoming products should always be perfect. Uniformity of raw material in a "ready to go" format allows the Japanese meat processor to maintain high plant productivity. A consistent brand product supplied from Canada allows him to use less inspection time in preprocessing, gain a higher yield from the raw materials, have standard settings on his processing equipment, train his labour force to expect to always have to make the same kind of cut and adaptation in the processing system, and produce a

homogeneously high standard of end-product. Consistent incoming product increases the likelihood of high yield of finished product per kilogram of input.

(4) Brand Record Keeping

The five largest Japanese pork processors keep yield records on their imports from Canada, US, Denmark, and Taiwan. These records are available by lot, by cut, and by brand. Since yield depends on PSE, fat trimming, and quickness of freezing, the processors can easily rate each brand by lot. From these records the history of yield per kilogram per Yen paid can be calculated. On the basis of this analysis, the Japanese end-user develops buying strategies, priorities of brand selection, and brand yield costs differentials.

Consideration of this information allows large processors to switch brand sourcing emphasis without much risk of a surprise. Their statistical models provide a high measure of brand performance probability. Therefore, brand switching occurs quite regularly amongst the large Japanese processors. One mistake by a Canadian processor can bring about a brand switch.

However, once a good reputation has been established, checking in Japan becomes less strict. But after a bad shipment, the Japanese buyer will check all incoming boxes, thereby increasing the probability of making a further claim against a poor shipment. Rumour and information quickly

spreads to other importers and consequently the top brand can rapidly shift between alternate Canadian suppliers.

Due to the large processor's methods of calculating yield from past records, a Canadian producer could maintain his reputation for 6 months after a mistake has been made. This is because the yield data are fed back from the contract error quite slowly. Small and medium size Japanese processors do not have the same analytical scope or breadth of experience of a wide variety of brands and cuts as the large Japanese processors. They do not have yield records to assist them in making their brand choice. Consequently, they have stronger brand loyalty based on their experience and familiarity with a particular brand they are happy with.

Moreover, workers in small and medium size processors prefer to work with the same brand since it gives them an established working routine with a familiar input range. Traditional ties are built up but by trust and personal relationship at the management level. These often include an annual golf game in Canada and plant visits.

Although Japanese trade journals report import pork prices for Canada SCB in Japanese they do not carry much information by brand. Current brand price per cut is available in Tokyo by telephone from Japanese trading companies, other importers, and agents of Canadian companies in Tokyo. However, small and medium size companies are traditionally reluctant to

switch brands on the basis of printed or word of mouth information.

The brand consciousness and strong loyalty of small and medium sized Japanese processors makes it difficult for a new Canadian meat packer (e.g. Western Canadian packer) to break into the Japanese pork market. Unless the Canadian packer is prepared to produce a very high quality product, attractively priced to catch the eye of the five large processors, it is difficult to induce small and medium size companies to buy. It should be noted that the small Japanese processors often pay up to a 25¢ per pound premium when they are forced to buy a product from large Japanese processors. There is, therefore, some incentive for them to find their own overseas brands to broaden the basis of their supply.

(5) Brand Names and Prices

There is always a trade off between pork brand name and price but this varies with the market situation of buyers and sellers. For instance, Brand A tenderloin ordered by the Japanese at the ¥/Kg. equivalent of $424/100 lbs. might be insisted upon, even though Brand B is available at $410/100 lbs. or even $400/100 lbs. Although there is substantial price differential, very rarely will there be a switching of brand. It is often the case that a 5 per cent price differential is insufficient to cause buyers to switch in the Canada-Japan pork trade, whereas in the US Japan beef trade a margin of 5

per cent would readily bring about a switching of source. Pork brand allegiance is very strong.

The top Canadian pork brand in 1984 originated from an Ontario packing house. This top brand was able to command a premium of 5-20¢ a pound for SCB above the next four brands. Their products appear virtually interchangeable in quality. These four brands in turn have a 5-20¢ per pound premium above any other brands. The extent of the premium for the top brand reflects not only quality differences but is also due to demand and supply pressures. All the major Canadian traders want to be able to offer a broad range of brands to keep their customers happy. Consequently, there is rarely enough of the top brand to go around and this pushes up the premium. The true value of the improved yield from the high quality of the top brand may only be worth 8-10¢ per pound above its immediate competitors but market pressures can increase this differential.

The premium varies depending on the situation and might be no more than 5-10¢ per pound on SCB most of the time, but could rise as high as 25-28¢ per pound in extreme cases. Suffice to say, that it is not unusual for the top brand to enjoy a pricing premium of between 3-14 per cent over its immediate brand competitors. These competitors in turn have a similar pricing wedge above the next group brands. The importance of this finding is that it would take between 6-25 per cent

in cost reduction for current Western packing houses to close the quality-price gap between themselves and the top quality brand name currently being purchased from Ontario by the Japanese.

It is believed that Quebec meat packers lost some of their brand name reputation in Japan during 1982-1983. This was because of the increased amount of their produce sourced to make up for the shortfall in Danish pork imports into Japan, while Denmark was under quarantine for hoof and mouth disease. During this period Quebec packers had to operate three shifts instead of the normal two. This extra output appears to have overstressed their production capacity. The higher through-put increased the probability of their inadvertently shipping poor quality pork. Moreover, it also put pressure on the wage structure in the Quebec meat packing industry. This was probably responsible for an eight month strike at one of the leading Quebec packing houses which terminated only in February 1984. Such a strike causes loss of brand name recognition and with it the pricing premium. After a lengthy industrial dispute, reputation can only be rebuilt slowly in the Japanese market.

(6) Economics of Brand Leadership

Achieving the position of top brand is in itself a fascinating story. The current pricing leader in Ontario decided almost three years ago to tighten up quality control and go after the Japanese market. At that time, its brand

name was virtually unknown to the Japanese. Today it is clearly positioned as number one and has been for the last six months. This position is achieved by ensuring the Japanese buyer of an excellent yield from the imported Canadian product due to low PSE, less fat, and consistency of cutting and quality. The Ontario meat packer is a completely integrated operation, which includes slaughter, cutting, selecting and processing for final consumer products. Since the processor is not dependent on export markets for the majority of its earnings, it is able to have a high rate of inventory turnover bound for North American markets, while concentrating on selling its top quality line to Japan.

The quality control initiative for the Japanese market stems from an explicit executive management decision taken 24-30 months ago. Companies with a high degree of worker discipline and dedication can expect to gain the highest rewards from Japan. Absence of a union and use of prices to stimulate employee suggestions, plus other ways of inspiring company loyalty including having the president visit the plant often wearing a white uniform, be on first name terms with the employees, all help to improve plant efficiency and product quality. The buyer knows that yield from a product produced in such circumstances will be consistently high and is therefore prepared to pay a premium price for it.

(7) Brand Summation

In sum, brand consciousness and emphasis on brand name is an important aspect of trading with Japan. In effect, there is a market for each brand, by each cut among the Japanese processors. Brand name is looked upon as an implicit warranty of quality and yield. Any mistakes made by the packer are punished through the market place.

The Problem of Packing House Errors

Since Japanese buyers demand rigorous quality control, any claimable errors can result in a brand name being dropped, or sales cut back, or price reductions being forced upon the supplier. If a Canadian packer makes a small mistake which results in a claim by a Japanese buyer, it can take 12-24 months for the Canadian seller to recover its former position. Even then, this will only be done with the expenditure of a considerable amount of cash and effort. Once a packer gets a bad reputation due to rumour or fact, it spreads rapidly through the Japanese meat processing industry and is hard to shake. The Japanese do not forget such errors even after two years.

Examples of the cost of making a mistake are well known in the meat packing industry. After making a critical shipment error, a Western Canadian packer had to:

(a) visit Japan every three months to keep up personal contacts;

(b) send 40-50 lbs. free samples by air on several occasions; and,

(c) provide a 40,000 lb. sample container for approval by Japanese customers before they would agree to pay for it.

This process took 24 months in order to rebuild the previous relationship with Japanese customers. In many ways it might have been easier to establish a new brand name line than to attempt to reestablish credibility and Japanese market acceptance.

In the Japanese view, strikes in a processing plan, or hoof and mouth disease in Denmark similarly reflects upon the credibility and brand name image of the supplier. However, in the Danish case, lavish EC-CAP export subsidies have been used to buy back processor acceptance in Japan. It is widely remarked that Japanese buyers always quote their unfavourable experiences with brands from the same country when a packer wants to promote its brand anew.

New Canadian Sources of Supply

If Canadian packing houses, especially those in Western Canada, wish to establish themselves in the Japanese market it will take a considerable effort. For a new packer without any previous Japanese export experience, to break into the market will require several key steps:

(a) The meat processors in Japan must be visited several times;

(b) literature in Japanese presenting the packers pork product range must be prepared;

(c) the Canadian processor must undertake to finish his product especially for the Japanese market;

(d) once that has been done, free samples must be sent to Japan by air for evaluation; and,

(3) it will probably be necessary to send several sample container loads at exporter's expense until accepted on quality grounds by the Japanese.

All of this requires patience, endurance and finance. It may take 1 to 2 years for a new packer to reach the break-even shipment point in Japanese business.

It will be difficult for a small or medium size Canadian packer of "average" quality to penetrate the Japanese market. The opportunities to do so appear to be only with the small and medium size processors in Japan. Given their brand loyalty, opportunities are rare. They arise:

(a) when Japanese importers lose confidence about a certain brand due to some recurring mistakes; or,

(b) if trading houses can convince small Japanese processor to try a new brand.

But for reasons mentioned in the previous sections, small processors are usually reluctant to change. Thus, it is often necessary for the Canadian packer to offer special specifications to suit particular Japanese processors' needs. Even when this has been done, there are several cases of Canadian processors being unable to continue to meet Japanese specifications once the Japanese technicians have left their Canadian plant and returned to Japan.

Building the necessary scale of pork preparation operations and quality control is a long and expensive business. For Western Canadian packers who may not have a very large through-put of homogeneous sized hogs to choose from, it may not be cost effective to think of setting up a high quality line with extra labour simply to service a specialized Japanese market. Essentially, they cannot tap the necessary economies of scope of operations.

Labour Cost in Canadian Packing Houses

It has been suggested that raw materials may account for four-fifths of the cost of pork for export. The labour content is only around 15 per cent of exportable value. However, the Japanese are continually asking for a more highly processed product, so that the amount of labour that must be devoted to ensuring quality product to their specifications appears to be on the increase.

Many of the operations required to suit the Japanese market have to be done by hand: selecting out PSE; trimming fat; picking product suitable for the Japanese market; final cutting and wrapping. Yet, the Japanese are not willing to pay extra for this labour-intensive work. As already noted, they do reward the results achieved by premium brands. If a particular Canadian packer is not producing a joint product for Canada, the US and Japan simultaneously, then it would be unable to recover all the labour input-cost on preparation of meat for Japan alone.

However, labour costs have continued to rise in Canada, causing a continual erosion of domestic and export market shares. As wages have risen Canadian packing houses have had to lay-off labour. Over 5,000 workers have been laid-off during the past decade and many Western packing houses, plus several elsewhere, have closed completely. By 1984 about 35,000 Canadians were employed at packing houses.

In Canada the last contract negotiated with the International Food Workers Union was in 1982. At that time the base salary was CDN$11 per hour with approximately 20 per cent fringe benefits. Under this contract there was a 12 per cent increase in 1982/83 and a further 11 per cent increase in 1983/84.
These cumulated increases will bring the hourly base salary in 1984 to CDN$14.19 per hour. By comparison, the US master contract concluded in 1982, gave an average salary of CDN$13.50 per hour. However, in 1983, after several large plants closed or filed for bankruptcy (including Wilson which filed under Chapter 11 of the Bankruptcy Act) Union meat cutter contracts were cancelled and salaries were dropped to a range of CDN$9.38 to CDN$10.33. Consequently, excluding fringe benefits the apparent hourly wage differential between packing house employees in Canada and the US would seem to be CDN$4.58 - CDN$5.53 per hour, favouring Canadian workers.* This large differential in labour cost could have several effects on the Canadian meat packing industry:

(a) It has already begun to divert activity in the meat packing phase from Canada to the US by increasing the flow of Canadian hogs to US meat packers to ship

* On boneless ham this differential is worth 4.3 - 5.2¢ per pound.

onward to Japan, or post-packing back to Canada for product mixing.

(b) As the labour intensive packing trend continues, higher labour cost become a greater and greater problem. Since Japanese buyers require more and more "ready-for-processing" meat, this inevitably means more labour-input in North American meat packing plants to meet Japanese specifications but Canadian labour costs dictate that a declining share of this upgraded market would be won.

(c) In 5 to 10 years time Japan pork imports could all be at the "ready-for-processing" stage. To cope with this trend Canadian packers must:

i) become competitive at wage rates comparable with those now prevailing in the US;

ii) continue to train workers in quality control; and,

iii) develop on-going methods to ensure consistent high quality results.

Failing these actions, Canada could lose an increasing share of the more labour-intensive meat packing operations to the US by the end of this decade, or in the longer run to Taiwan.

Shipping Costs In the Canada-Japan Pork Trade

It is important to recognize the pattern of Japan's overall trade with North America in order to understand the competitiveness of shipping freight costs from Eastern and Western locations in Canada to Japan. In general, the sum of all Canadian exports to Japan record a higher volume moving through West Coast ports than through East Coast ports. This reflects the heavy tonnages of coal, forest products, metals, and grains being shipped. On the other hand, Canadian imports from Japan are mostly autos and

containerized consumer durables destined for Ontario and Quebec because of the high population density in those provinces. Thus, a higher volume of imports flows in through East Coast ports than those on the West Coast.

Excess capacity in international shipping makes ocean freight rates very competitive. This situation is unlikely to change substantially by 1990-91, because of haul-back consideration and the general decline in market power of price-setting shipping conferences. There is considerable capacity of refrigerated containers available at Eastern ports for movement to Japan. Even though the route from Eastern ports to Japan:

(a) can only be undertaken by relatively small vessels;

(b) which have to pass through the Panama Canal;

(c) pay canal tolls;

(d) on a voyage taking about 10 days longer than a similar voyage from the West Coast to Yokohama; and,

(e) the freight costs are very competitive with the Western route to Japan.

Eastern shippers price refrigerated space to compete with the pork shipped from any Western point of origin. Pork from Ontario can be competitively hauled by road to Western US ports for Japan. Thus, there exists a general equilibrium freight rate market in which the total costs of pork shipment through East or West gateways is balanced by overall supply and demand forces. Thus, if pork packing house costs in the West were to fall relative to those in the East it is most likely that shipping rates from the East to Japan would in the medium term adjust downward sufficiently to offset any price

competitive advantage on the final product gained by Western producers. The pattern of large quantitites of imports from Japan coming to the East with low haul-back volume; and large volumes of exports flowing from the West to Japan is unlikely to change in this decade. Indeed the volumetric differences are likely to become more imbalanced given growing Japanese raw material import requirements from the Canadian West. Therefore, it seems probable that this general equilibrium freight rate situation will continue to operate for at least the next 10 years.

In 1984 there was very little differences in the overall freight rates for pork shipment to Japan from Ontario, Quebec, or the West due to exceedingly slack shipping markets. Shipments from Toronto to Japan cost between 11 and 16¢ per pound, depending upon the state of the market. In general, shipment of refrigerated pork from the West to Japan is cheaper only by 1-2¢ per pound. Due to the small and scattered Western Canadian output of hogs, it is often necessary to truck pork fairly long distance from farm to slaughter house. This trucking is expensive and adds up to 1½¢ per pound to Western costs above Eastern costs.

The time taken for delivery to Japan varies between Western and Eastern packing houses. Rail carriage to the West Coast from a meat packer in the West may take 10-12 days to which must be added ocean shipment from the West Coast to Japan of a similar time to bring about 20-24 days total elapse time. Shipment from

the East Coast to New York City via Panama to Japan takes approximately 10 days longer than the Western routing. To save the extra 10 days it is possible to move the goods by rail across Canada but this would add another 8¢ per pound. It is, therefore, rarely undertaken. The extra ten days voyage from the East adds in an additional financing charge to be calculated into the C&F price, but this is unlikely to be more than 0.5¢ per pound.

Currently (February 1984), several shipping companies are offering identical rates for the complete freight charge from an Eastern location to Yokohama as from a Western port of origin.

Canada Compared To Its Competitors in the Japanese Pork Market

It is widely believed in the Canadian packing house industry that pork produced here is the best anywhere in the world. This is thought to be especially true of backs and hams. Canada appears to have a basic comparative advantage in producing pork because of its climate, space and grain availability.

Canadian pork is generally the leanest produced and supplied to Japan. The lack of fat means that larger cuts can be sold to Japan than are available from our competitors. For instance, the Canadian whole loin is sold in the domestic market but this has too much fat for Japan. It is the largest possible cut from the back of the hog. The middle size cut is the Canadian short cut back (SCB) which because of its quality and lack of fat can be

exported to Japan. Some 70 per cent of all Canadian SCB sold to Japan probably goes for table use. SCB yields 75 per cent or more finished product for Japanese processor. Because the American and Danish hog has a larger fat content on its SCB it is not possible to readily export them to Japan. Therefore, to date the Americans have cut this part of the hog to produce a center cut, which of the three back cuts is the smallest. The center cut is purchased from American and Danish packers by the Japanese principally for processing. The big five Japanese processors have been able to achieve a 90 per cent process yield from center cut but its price is often ¥ 50 per kilogram higher than SCB.

Taking these factors into account, it is apparent that a Canadian SCB with its larger quantity of meat and lower fat content can be competitive in the ham and loin market in Japan. If price can be held down, Canadian SCB will continue to hold the market share that these imports enjoyed in the early 1980s (see Table 16). It will be necessary to continually upgrade the quality of SCB shipped to Japan if this share is to be retained up to 1990.

Canada does not export many hog bellies for bacon to Japan This can be traced to a number of factors:

(a) Canada and the US have strong domestic markets for bacon.

(b) Japanese belly specifications are different from North American. To meet them would require a more labour-using and therefore costly processing operation.

(c) Taiwanese labour can produce bellies and bacon to Japanese specifications at relatively low unit labour costs.

(d) Danish belly exports are heavily subsidized through the working of the EC--Common Agriculture Policy.

Based on these considerations Canada is unlikely to attempt to compete directly with the Danes and Taiwanese in the belly and bacon market in Japan.

The overall production of hogs in the US is approximately ten times larger than in Canada. Although Canadian average quality is higher, the US packer can often match it by culling the best product from its vast output and earmarking it for Japan. Thus, it must be recognized that the US remains Canada's strongest competitor in the Japanese market based on its production volume and the associated stability of output and price that results from a much larger market. Moreover, recent reductions (1982-1984) in US hourly labour costs have made American packing houses highly competitive with those in Canada. Several Japanese buyers have remarked that they find it easier to buy in the US than in Canada because there are fewer but larger sources.

Forecast of Japan's Pork Import Requirements to 1990

The Japanese Ministry of Agriculture, Forestry, and Fisheries (MAFF) has forecast that the per capita daily supply of pork in Japan by 1990 will be 29-31 grams. This would be double the 1970 level of per capita intake, up by 9.8 to 11.7 per cent over 1980

intake levels. Since the Japanese population is projected to grow from 117 million (1980) to 124 million (1990)*, overall demographic growth during the decade will be about 6.0 per cent. Thus, total volume of demand for pork in the Japanese market is likely to grow from 1.58 million tonnes carcase weight (1980) to between 1.83 and 1.86 million tonnes carcase weight 1990. These forecasts assume:

(1) That the MAFF estimate of per capita pork consumption in Japan is correct; and,

(2) that the World Bank population growth forecast is correct.

Item (2) above is likely to be highly reliable, whereas item (1) could easily be incorrect because of:

(a) failure to forecast the degree of impending beef market import liberalization (MAFF forecasts a 50 per cent per capita intake in beef consumption, 1990 over 1980);

(b) stronger than expected cross price elasticities of substitution among competing meat items, e.g. beef, chicken, and pork; and,

(c) weaker than expected income elasticity of demand for pork by Japanese.

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* Population forecast from World Development Report 1983, World Bank Washington, D.C., 1983, Table 19, P. 185.

If all these worst case results worked out then a 1990 forecast of 1.6 million tonnes carcase weight might be appropriate. Therefore, we offer a HIGH, MEDIUM, LOW forecast scale:

Japanese Total Pork Consumption, 1990

(Million tonnes, carcase weight)

| Forecast | Volume |
|---|---|
| HIGH | 1.86 |
| MEDIUM | 1.75 |
| LOW | 1.60 |

In our view, the MEDIUM forecast represents a suitably cautious projection of 1990 intake.

The MAFF has projected that Japan's self-sufficiency in pork production could reach 96 per cent of total carcase weight consumption requirements. However, as Tables 2 and 3 clearly show Japan's hog production stalled in 1979-81, as did carcase output. This suggests that Japan may not reach its self sufficiency goals for 1990. Instead it is more reasonable to argue that Japan will not exceed 90 per cent self-sufficiency in 1990, since this ratio has been declining since 1978. There are several reasons why:

(a) the continued high support price for rice makes domestic feedstuff production inefficient;

(b) the price of import feedstuff is jacked up to help pay for the rice subsidy; and,

(c) there are few further scale economies available to domestic pork farmers without a complete change in Japan's land tenure system.

Since it is unlikely that either the rice subsidy will be dismantled or the tenure system changed, it is safe to conclude that self-sufficiency in pork will not surpass 90 per cent by 1990. If this view is accepted, then Japan's import requirements for pork to 1990 will be (carcase weight, tonnes):

| | |
|---|---|
| HIGH | 186,000 |
| MEDIUM | 175,000 |
| LOW | 160,000 |

The next question to address is: "What will Canada's share of this import market be?"

From the previous sections, it is clear that many factors impinge on this issue. Included in them are:

(a) cost of farm production of hogs;

(b) local transport costs from farm to slaughter house;

(c) slaughter/packing house operating costs:

  (i) machinery costs
  (ii) labour costs
  (iii) energy costs

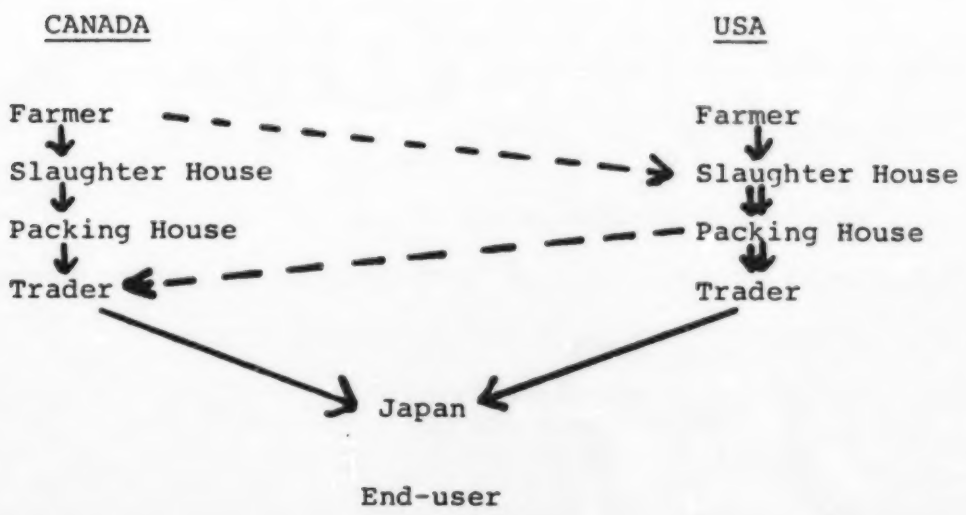
(d) quality control costs at packing houses (principally extra labour costs);

(e) trading margin costs; and,

(f) domestic and international freight and insurance costs from Canadian packer to Japanese end-user.

At the present time Canada may have some slight cost disadvantages in stage (a) relative to the US farmer, however these are overcome because of generally lower fat content in Canadian pork. International pork freight from Montreal or New York is virtually identical, just as it is when comparing Vancouver to Seattle. The most serious sources of cost differential of Canadian vis-à-vis American pork for Japan is in the labour cost elements noted as (cii) and (d) above. Unless the existing wage differentials are reduced Canada's direct share of the Japanese market could be undercut.

Consider the following shipment routings:



High cost labour in Canada could divert Canadian hogs away from the Canadian meat processing industry to that in the US. A falling Canadian dollar relative to the US dollar would compound this effect. With a low Canadian dollar most Canadian pork would pass through the US packing sector to Japan. Otherwise it is possible that packed pork could return to be mixed in Canadian shipments to Japan. In both cases Canada loses value-added in the packing house phase, but in the former case it also ends up only shipping low-grade low-value pork from Canadian packing houses to Japan. In the latter case Canada ends up shipping directly the usual mix of pork products to Japan, but in reduced volumes compared to the late 1970s. Note that indirect exports to Japan via the US packing sector might offset these market losses in part, but the value-added would be lost for these indirect exports. However, in neither case would the pork farmer be directly affected, unless the sum of Canada's direct and indirect pork exports to Japan required an overall cutback in domestic hog production.

Thus, if there is no reduction in Canada's structure of packing house unit-labour-costs, Canada is unlikely to be able to reclaim its 1970s traditional 25 to 35 per cent share of Japan's import market. On the other hand, Japan's long-standing risk aversion sourcing strategy works in Canada's favour. Japanese processors would not like to see Canada retreat as an important source of pork. The possibility of a repeat of "hoof and mouth" disease clearly worries them as do anxieties over potential US

export embargoes, (vide 1973 US soybean export embargo). Given these considerations, Japanese buyers may not wish to become overly dependent on either Denmark or the US. If,

(a) Canadian unit labour costs can be brought roughly into line with those in the US pork industry; and

(b) Denmark eases on its pork export subsidies due to EC-CAP budgetary constraints; then

Canada's share of the Japanese pork import market could easily have climbed back to 30 per cent (annual average) by 1990.

The late 1983 share of 11.7 per cent must be viewed as a nadir and the result of Canadian sales being adversely affected by the full range of American cost differentials, Danish subsidies, and Quebec quality problems. If these issues can be only partially straightened away, Canada can expect a 20 per cent (annual average) import market share by 1990, as a minimum.

Applying these maximum and minimum shares to the previous HIGH, MEDIUM, and LOW import volume forecasts gives the following results:

Canada's Projected Pork
Exports to Japan by 1990
(tonnes, carcase weight)

| Forecast | Volume |
|---|---|
| HIGH (30%)* | 55,800 |
| MEDIUM (25%) | 43,750 |
| LOW (20%) | 32,000 |

* Import market share.

In our considered opinion this range from 32 to 55.8 thousand tonnes is the reasonable minimum to maximum. However, in our judgement shipments of 40 thousand tonnes of pork directly from Canada to Japan are the most likely forecast for 1990.

Freight Rate Changes and Regional Production

The regional implications of this analysis and forecast are also important. The immediate impact of a declining market share for Canadian pork sales in Japan will most likely first be felt in Quebec and Ontario. Unless some 10¢ per pound can quickly be shaved off unit-labour-costs, Canadian sales will suffer further. Since Western producers are already in a precarious export marketing position with respect to price and quality in the Japanese pork market, their failure to adjust costs rapidly could conceivably drive them from this market.

Yet if our long-term projections are reasonable and Canada does rebuild its market share to 25 per cent of Japan's pork imports, it is unlikely that production location would shift westward in great measure. A three per cent cost advantage at the hog farmers gate in the West over Ontario and Quebec,* as a result of feedgrain rate adjustments, can clearly be seen as relatively insignificant given the other cost forces that must be at work throughout the industry in Canada during the second-half

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* See earlier section for the derivation of this figure.

of the 1980s. Moreover, for reasons set out in our discussion on ocean freight rates, a cost differential of this magnitude is likely to be swamped by freight cost differential adjustments between Canada's East and West Coast ports and Japan.

Summary and Conclusions

Canada's total average exports of pork to Japan in 1981-83 were worth $197 million. At the end of the 1970s more than four-fifths of these exports constituted fresh frozen pork. Fresh frozen pork shipped to Japan in 1982 originated principally from Quebec and Ontario (together 83 per cent) with small proportions (each less than 6 per cent) being sourced from Alberta, Manitoba, and Saskatchewan.

At the end of the 1970s, Canadian pork typically held a 25-33 per cent share of the Japanese pork import market. Shares in this market were destabilized by the withdrawal of Denmark--often the share leader--due to "hoof and mouth" problems in the early 1980s. Denmark returned to the market in late 1983 and attempted through very aggressive pricing (export subsidies) to quickly recapture its market share. Over the longer-term, shares of the Japanese pork market will be determined by the competitive pricing of pork products of similar quality.

Analysis shows that the mix of pork products being sold to Japan from Canada has been quite different from exports from Denmark, and generally of better quality than competing products from the US. Although the "table meat" segment of the Japanese

market--catered to by Canadian pork--has been growing relatively slowly, the high yield for processing of much Canadian pork ensures a growing market. Looking ahead, Japanese meat processors will require import pork to be cut to more exacting specifications to satisfy their rising "ready-to-process" demands. To meet these specifications will require more labour-intensive activities in Canadian pork packing houses.

Several cost and quality factors bear on the overall competitiveness of Canadian pork in the Japanese market place. Sourcing within Canada will be done from those regions and packing houses that can most effectively serve Japanese buyers with quality items at a delivered cost in Japan that is globally competitive. Changing feedgrain rail freight rates through the Western Grain Transportation Act (WGTA) will affect some elements in the overall hog production cost structure for Western farmers. It is estimated that under the proposed Gilson formula, production of trimmed carcase pork in the West could decline by almost 5¢ per pound in 1984 dollars ("50-50" = 4.2¢ and "C-155" = 2.5¢) by 1990-91. These cost adjustments would bring about some slight (0.34%) increase in North American hog production and, ceteris paribus, therefore contribute downward pressure on all hog prices. Aside from this effect, no other changes would occur in the cost-price hog production structure in the central provinces as a direct consequence of the WGTA.

Thus, implementation of the WGTA may make Canada slightly more competitive in the Japanese pork market overall. Will it

also cause a significant shift in sourcing of pork from Quebec and Ontario to the Western provinces by 1990-91? As soon as other quality, volume, production cost, and transportation cost elements are taken into account, the answer to this question appears to be negative. Consider the following points discussed in some detail in this report:

* Canada sells high quality pork to Japan. Quality is determined by meat (size of eye of lean), lack of PSE, trimming to or better than specifications, attention to finishing, consistency of product, and all round yield from Canadian short cut back (SCB) achieved by Japanese end-users.

* To continually achieve high quality standards for the Japanese market requires a considerable volume of hog through-put in the packing house sector from which the best pork can be selected for Japan. Such exports to Japan require "economies of scope" to be possible. At present, the small quantities of hogs moving through Western packing houses make these conditions difficult to achieve in any volume. This is unlikely to change by 1990-91.

* Development of a "brand-name" image in the Japanese market is costly and time consuming to achieve. A few mistakes in shipment quality can hurt a brand for several years. The leading Canadian brand in 1984 commanded a premium of 5-20¢ per pound for SCB above the next four brands. They, in turn, earned similar premiums above any other brands. To close the current quality-price gap Western packing houses would need a 6-25 per cent cost reduction vis-à-vis their counterparts in Quebec and Ontario.

* Recent cuts in the wage structure of workers in the US packing house industry have left Canadian wages for equivalent jobs approximately CDN$5.00 per hour above their US counterparts. This differential could amount to a 4-5¢ per pound disadvantage for Canadian boneless ham relative to American in the Japanese market. Canadian hogs are likely to be diverted through American

packing houses on route to Japan's (and the US) market unless this wage differential can be effectively eliminated. Thus, the outcome of upcoming wage bargaining in the Canadian packing house sector, if different across provinces, could importantly affect the regional sourcing of pork for Japan. It will also affect Canada's long-term overall share of the Japanese pork import market.

* Excess capacity in international shipping makes ocean freight rates very competitive. This situation is unlikely to change substantially by 1990-91, particularly because of back-haul considerations and the general decline in market power of price-setting shipping conferences. There is substantial capacity of refrigerated containers available at Eastern ports for movement to Japan. Rates are set to compete precisely with any mixed-mode shipment from the West. Indeed it is possible even to ship from Ontario by road to US West Coast ports for onward movement to Japan and match or better total freight costs from the Prairies to Japan. Evidence suggests that Eastern or mixed-mode "road-Western port" rates to Japan would adjust to absorb any modest product price differential favouring Western pork over Quebec/Ontario pork in order to maintain freight volume and back-haul usage capacity. Thus, a 5¢ per pound cost advantage for the West could be offset in part or whole by a proportionate adjustment in Eastern freight charges to Japan.

Providing that Canadian producers can keep their overall production cost structure in line with the US and maintain the highest standards of quality control, Canada could and should maintain a 20 to 30 per cent share of Japan's import market up to 1990. Based on demographic trends, income elasticity of demand for pork, and conservative income projections, Japan's total pork import requirements to 1990 can be forecast. Various assumptions about trade liberalization and rice support payments are used. Taking all these into account, Canada's potential shipments of pork to Japan in 1990 are forecast as:

| | |
|---|---|
| HIGH | 55,800 tonnes per annum |
| MEDIUM | 43,750 tonnes per annum |
| LOW | 32,000 tonnes per annum |

Note that the most pessimistic (LOW) forecast is for a volume similar to Canada's 1978-80 average exports to Japan. In this case, we would expect Ontario and Quebec to continue to hold over 80 per cent of the fresh frozen pork exports. The most optimistic (HIGH) scenario allows for considerable overall growth in shipments with the Prairies improving their share of Japan's pork import market, especially if the "Gilson" WGTA option is implemented. The most likely outcome is the MEDIUM case which allows for modest growth (relative to the 1978-80 base period) up to 1990. In these circumstances Ontario and Quebec must be expected to retain 80 per cent of Canadian pork export volume to Japan regardless of the outcome of the WGTA.

# APPENDIX

## Interviews for this Report

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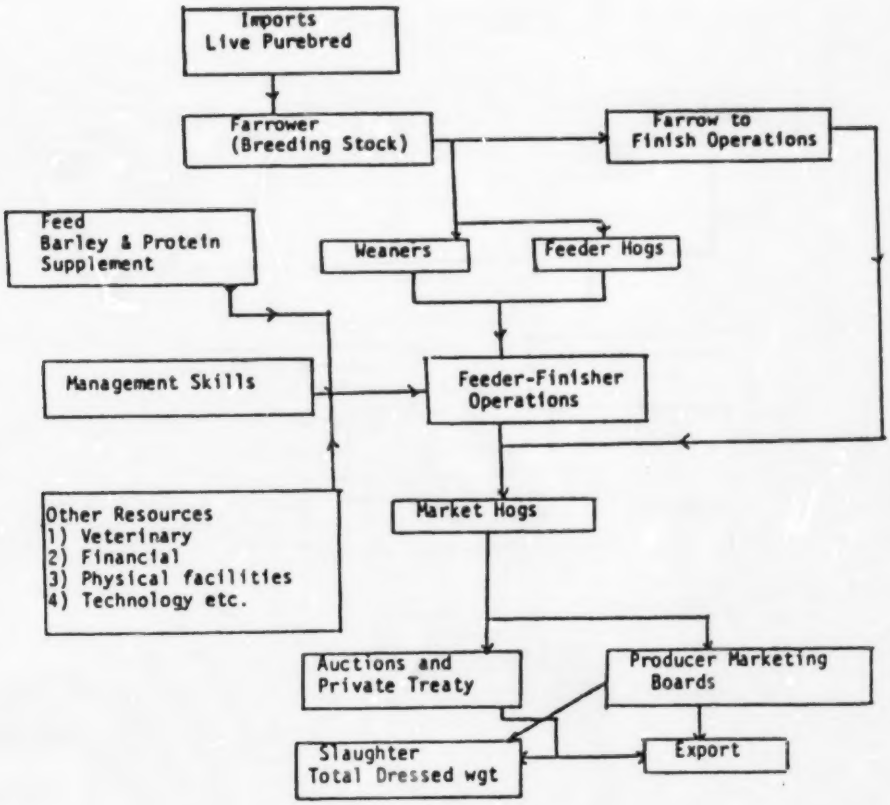

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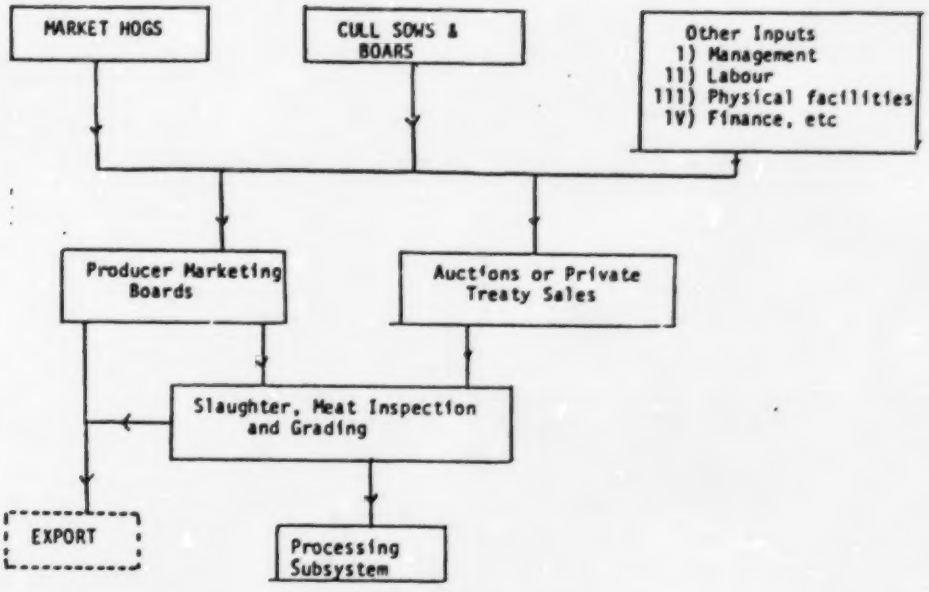

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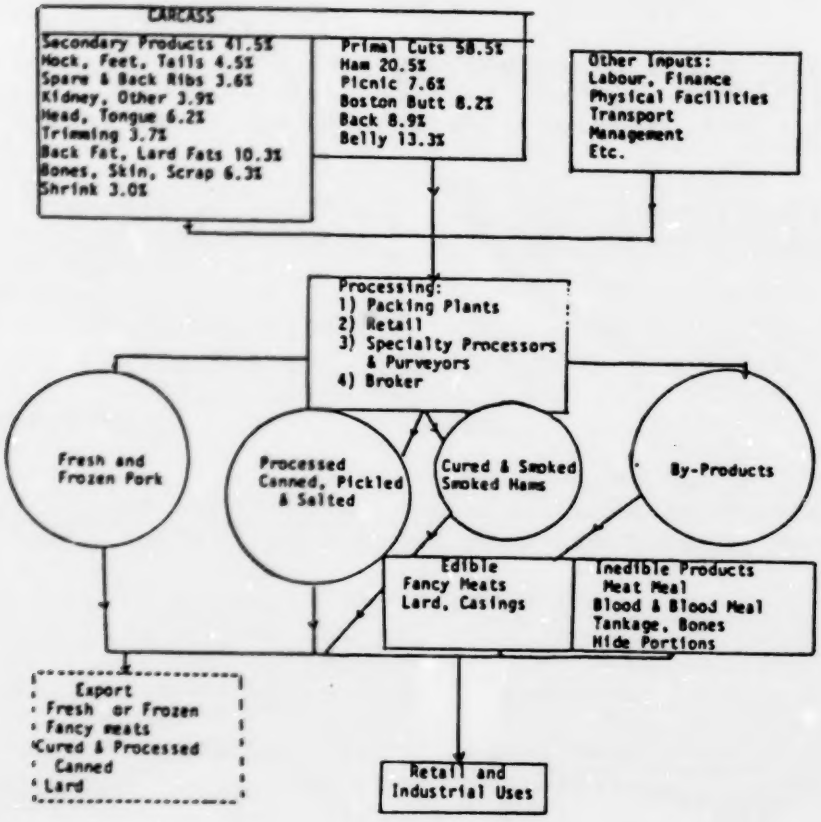

## BIBLIOGRAPHY


1. Agriculture Canada (1982), The Effects of the Western Transportation Initiative on Agriculture in Eastern Canada: Report of the Working Group.

2. Alberta Agriculture, Alberta Economic Development (1980), A Discussion Paper on Current Issues in Grain Handling and Transportation, Government of Alberta.

3. Canada Grains Council (1981), Canadian Grains Industry: Statistical Handbook 81, Winnipeg, Manitoba.

4. Canada Grains Council (1982), Eastern Grain Production and Prospects, given by J.A. Gellner and H.A. Hedley at the Semi-Annual Meetings in Montreal, October, 1982. Winnipeg, Canada.

5. Chase Econometrics (1982a), U.S. Food and Agriculture Long-Term Forecast Report: U.S. Agricultural Economy to 1992, August, 1982.

6. Chase Econometrics (1982b), An Economic Analysis of the Proposed Policy for Revising Statutory Grain Rate Structures: Executive Summary, Canadian Food and Agriculture Service, October 1982.

7. Gilson, J.C., (1982), WESTERN GRAIN TRANSPORTATION: Report on Consultations and Recommendations, Canadian Government Publishing Centre, Supply and Services Canada, Ottawa.

8. Government of Canada, (1982a), The Effect of Transportation Costs on Farm Income and Expenses in Western Canada, Technical Working Paper No. 3 prepared for Dr. J.C. Gilson, Federal Representative on Western Rail Capacity.

9. Government of Canada (1982b), Assessment of Alternative Compensation Mechanisms, Technical Working Paper No. 4 prepared for Dr. J.C. Gilson, Federal Representative on Western Rail Capacity.

10. Government of Canada (1982c), Agricultural Growth Potential for the West With Crow Rate Adjustment, Technical Working Paper No. 5 prepared for Dr. J.C. Gilson, Federal Representative on Western Rail Capacity.

11. Harvey, D.R., (1980), Christmas Turkey or Prairie Vulture: An Economic Analysis of the Crow's Nest Pass Grain Rates, The Institute for Research on Public Policy, Montreal.

12. Harvey, D.R. (1981), Government Intervention and Regulation in the Canadian Grains Industry, Technical Report E/16, Economic Council of Canada, Regulation Reference, June 1981.

13. Harvey, D.R., (1982), An Economic Analysis of the Crow Rates, Working Paper Prepared for Agriculture Canada.

14. Hay, K.A.J., "Canadian Agricultural Trade With Japan," in Exports to Japan: Prospects for Agricultural and Food Products, CJTC, Ottawa, pp. 52-62, 1983.

15. Hay, K.A.J. and Hill, S.R., Canada-Japan: The Export-Import Picture 1982, CJTC, Ottawa, 1983.

16. Hay, K.A.J. and Lovatt, M.O., Canadian Food for Japan, CJTC, Ottawa, 1983.

17. Horner, Dr. H. (1981), A review of the Meat Packing Industry in Alberta, prepared for Alberta Economic Development, Government of of Alberta.

18. Kennedy, R. and Churches, M., Canada's Agricultural Systems, McGill University, Ste. Anne de Bellevue, 1981, Chapter 13.

19. Kirk, B., Agricultural Impacts of Crow Change: Final Report, Agriculture Canada, Ottawa, 1983.

20. Prairie Wheat Pools, (1982), Western Feed Grain Rate Equalization Fund: An Alternative Method of Payment, prepared jointly by the Saskatchewan Wheat Pool, Alberta Wheat Pool and the Manitoba Pool Elevators.

21. Snavely, King and Associates (1982), 1980 Costs and Revenues Incurred by the Railways in the Transportation of Grain Under Statutory Rates, prepared for the Grain Transportation Directorate, Transport Canada, January 1982.

22. Telford, R., "Canadian Pork Trade with Japan", in Exports to Japan: Prospects for Agricultural and Food Products, CJTC, Ottawa, pp. 52-62, 1983.

23. Wogin, G. (1982), "Review of Harvey" (1980) in Canadian Journal of Economics, Volume XV, No. 3.

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